The JOURNAL of INSURANCE

PUBLISHED BY THE AMERICAN ASSOCIATION OF UNIVERSITY TEACHERS OF INSURANCE

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Volume XXVII, Number 4

CONTENTS — December, 1960

FEATURE ARTICLES

Page

v About Our Authors

1 The Social Security Principle
By Frank G. Dickinson

15 The Challenge of Aging to Insurance
By Wilbur J. Cohen

19 Pensions and the Cost of Living
By William F. Marples

33 Notes from a Graduate Course in Insurance Administration
By John T. Even

47 Game-Theory and Insurance Consumption
By C. Arthur Williams, Jr.

57 The Regulation of Life Insurance Company Investments
By Robert E. Schultz and Raymond G. Schultz

63 A More Permanent Formula for the Taxation of Life Insurance
By George E. Lent

75 Updating Life Insurance Settlement Options
By Theo P. Otjen and Arthur J. Pabst

85 Insurance, Automation, and the Individual Employee
By Wesley S. Bagby

91 The A, B, C's of Life Insurance Rate and Reserve Computation
By James J. Chastain

99 Exploration of a New Era of Insurance: Dental Insurance
By Lee R. Farmer

103 Supervision of Insurance in Australia
By Cecil A. Grimley

109 Factors Influencing the Training of Life Insurance Salesmen
By Howard H. Conley

113 Dean's Forum: The Place of Insurance in the Collegiate Curriculum
By Erwin A. Gaumnitz, George E. Manners, James R. Surface, Maurice W. Lee, Paul Garner

Page

PUBLICATIONS AND RESEARCH

Review Article

121 Insurance Education Abroad (Based upon Insurance Courses in Colleges and Universities Outside the United States, by Davis W. Gregg and Mechthild K. Longo)
By Ingolf H. E. Otto

Book Reviews

126 The Teacher Who Changed an Industry. By Mildred F. Stone
Reviewed by Edison L. Bowers

129 Would You Believe It? By W. A. Dinsdale
Reviewed by Ingolf H. E. Otto

130 Price Discrimination in Property and Liability Insurance. By C. Arthur Williams, Jr.
Reviewed by Calvin H. Brainard

ASSOCIATION BUSINESS

133 Insurance Terminology: A Continuing Study

134 1960 Institutional Members

136 The N.A.I.I. Journal of Insurance Awards

ABOUT OUR AUTHORS

Wesley S. Bagby, B.B.A., Los Angeles, California, is Comptroller of Pacific Mutual Life Insurance Company. A Phi Beta Kappa, he is a Fellow of the Life Office Management Association. Mr. Bagby taught Economics and Accounting at U.C.L.A. for two years and has been with Pacific Mutual since 1927. He had executive responsibility for the initial installation of the company's electronic data processing system.

James J. Chastain, M.B.A., C.L.U., C.P.C.U., Omaha, Nebraska, is Associate Professor of Insurance and Director of the Insurance Program at The University of Omaha. Mr. Chastain, who is completing his graduate work at the University of Illinois, has taught at The University of Wyoming and Drake University.

Wilbur J. Cohen, Ann Arbor, Michigan, is Professor of Public Welfare Administration at The University of Michigan. He was Research Assistant for the Committee on Economic Security (1934-5) which drafted the original Social Security Act. Later, 1954-56, he was Director of Research and Statistics, Social Security Administration. Professor Cohen is co-editor of *Social Security: Programs, Problems and Policies* (1960).

Howard H. Conley, B.S.E., C.L.U., New York City, is Second Vice President of the New York Life Insurance Company. Mr. Conley has been associated with the New York Life since his graduation from college, having been agent, assistant general manager, general manager. In 1954 he was brought to the home office to be in charge of field training.

Frank G. Dickinson, Ph.D., New York City, is Director of Study for the National Bureau of Economic Research. Dr. Dickinson can be called the father of A.A.U.T.I. as it was he who initiated the program which led to the formation of the Association. He was the first Secretary-Treasurer and later served a two year term as President of A.A.U.T.I. A member of the Economics Department at the University of Illinois from 1921-46, Dr. Dickinson served as Economist and Statistician of the American Medical Association from 1946-58.

John T. Even, B.S. in Engineering, LL.M., Chicago, Illinois, is Assistant Vice President of Alexander and Company. One of the original fire protection engineering scholars at Armour Institute of Technology, Mr. Even now devotes his time to research, planning, development, underwriting and income tax consequences of corporate insurance. He has been chairman of committees appointed by the Bar Association of Illinois and of Chicago to review special problems related to insurance.

Lee R. Farmer, Chicago, Illinois, is Assistant Vice President and Operating Head of the General Group Division of Continental Casualty Company. Prior to his present position, he served as Mid West Regional Manager and as Superintendent of the Group Division for Continental. For eight years, Mr. Farmer was a District Manager for Minnesota Blue Cross and Blue Shield.

Paul Garner, Ph.D., C.P.A., University, Alabama, is Dean of the School of Business Administration at the University of Alabama.

Erwin A. Gaumnitz, Ph.D., Madison, Wisconsin, is Dean of the School of Commerce at the University of Wisconsin. A past President of A.A.U.T.I., Dean Gaumnitz is a Director of Fortune National Insurance Company. During World War II, he served as Chief Economist and Price Executive for O.P.A. Since 1938, Dean Gaumnitz has been on the faculty at Wisconsin, having taught previously at The University of Minnesota and College of St. Thomas.

Cecil A. Grimley, M.B.E., A.A.L.I., Brisbane, Australia, is Insurance Commissioner of Queensland, Australia. He started his insurance career with Yorkshire Insurance Company and joined the State Government Insurance Office in 1917, twelve months after it was established. As Commissioner, Mr. Grimley's duties include the management of the State Government Insurance Office, transacting all classes of insurance. The Office has an income exceeding £10 million a year and is one of the largest Australian offices. He was a foundation member of Queensland Insurance Institute and served as its President in 1941. In the New Year's Honours List in 1960, Mr. Grimley was awarded membership in The Most Excellent Order of the British Empire (M.B.E.) in recognition of his services to the Government of Queensland and the insurance industry.

Maurice W. Lee, Ph.D., Chapel Hill, North Carolina, is Dean of the School of Business Administration at The University of North Carolina. He is currently President of American Association of Collegiate Schools of Business and a member of the Board of Directors of the National Bureau of Economic Research. Dean Lee also serves on the Selection Committee, Business and Economics, for the Associated Research Councils, and on the Faculty Selection Committee of The Brookings Institution.

George E. Lent, Ph.D., Hanover, New Hampshire, is Professor of Business Economics in the Amos Tuck School of Business Administration at Dartmouth College. He was formerly a member of the Tax Advisory Staff of the U.S. Treasury Department, and a Research Associate of the National Bureau of Economic Research. Dr. Lent has taught at University of North Carolina, Rensselaer Polytechnic Institute, and Massachusetts Institute of Technology.

George E. Manners, Ph.D., C.P.A., Atlanta, Georgia, is Dean of the School of Business Administration of Georgia State College of Business Administration. Dean Manners has been on the faculty of Georgia State since 1947.

William F. Marples, F.I.A., A.S.A., Los Angeles, California, is Vice President of Milliman and Robertson, Inc., consulting actuaries. Mr. Marples has been a consulting actuary and partner in Duncan C. Fraser and Company, in England. Prior to his present position, he was a Senior Associate, George B. Buck in New York.

Theo P. Otjen, A.B., LL.B., Milwaukee, Wisconsin, is Assistant Secretary of the Northwestern Mutual Life Insurance Company. Mr. Otjen's 25 years of experience in life insurance law and administration include a period as Assistant Counsel for the Northwestern.

Ingolf H. E. Otto, Ph.D., C.P.C.U., New York City, is Associate Professor of Finance in New York University. In addition to his teaching, Dr. Otto continues to be active in the practice of insurance, with offices in London and New York. A member of the Advisory Board of *The Journal of Insurance*, Dr. Otto has taught at the University of Kansas City.

Arthur J. Pabst, Milwaukee, Wisconsin, is Settlement Option Analyst for The Northwestern Mutual Life Insurance

Company. Mr. Pabst brought to the position of project administrator of settlement option revisionary correspondence, some 43 years of specialized experience in the drafting and analysis of settlement options.

Raymond G. Schultz, Ph.D., Los Angeles, California, is Assistant Professor of Finance at the University of Southern California. He served as Executive Secretary of Beta Gamma Sigma (National Honorary Scholastic Society for business schools) for two years.

Robert E. Schultz, Ph.D., Los Angeles, California, holds the rank of Professor at the University of Southern California. He is financial consultant for Pepsi Cola for Venezuela and is insurance consultant for Magna Mill, Inc., and for Gold Furniture Company.

James R. Surface, D.C.S., Lawrence, Kansas, is Dean of the School of Business at The University of Kansas. Dean Surface was a member of the Harvard Business School faculty from 1950-57 and served on the faculty of the Atlantic Summer School for Advanced Business Administration in Halifax, Nova Scotia in 1956 and 1957. He is Director of the U.S. Independent Telephone Management Development Program and is a member of the Board of Directors of Quarterly Distribution Shares.

C. Arthur Williams, Jr., Ph.D., Philadelphia, Pennsylvania is Visiting Professor of Insurance at the University of Pennsylvania. He is on leave of absence this year from his position of Professor of Economics and Insurance at the University of Minnesota. Dr. Williams is coauthor of *Economic and Social Security* and is author of *Price Discrimination in Property and Liability Insurance.* He is an Assistant Editor of *The Journal of Insurance* and is a member of the Executive Committee of A.A.U.T.I.

THE SOCIAL SECURITY PRINCIPLE

FRANK G. DICKINSON

National Bureau of Economic Research

Although some of the mature characteristics of the expanding social security program are still obscure, it should now be possible to point out a few of the developing patterns of the system. What is its image? The twenty-fifth anniversary of the signing of the Act by President Franklin D. Roosevelt, on August 14, 1935, was duly celebrated last August in Washington, in the press, and by some significant discussions of the history of the Act.[1] Furthermore, Dr. Francis E. Townsend died a few weeks after the twenty-fifth anniversary. Most historians would grant that the pressure of his grass-roots movement during the 1930's was one of the factors responsible for the enactment and the expansion of the Social Security Act. Moreover, some of the recent amendments indicate a trend in the general direction of Townsendism although, of course, the leader of this mass movement would not grant that many of his ideas had already become incorporated in the law through amendments. Only 4.3 per cent of the 8,000,000 persons age 65 and over in 1935, however, have received Old Age and Survivors Insurance (OASI) benefits.[2] Another reason for making an appraisal at this time is that the first Republican administration after the law was enacted is now ending. The mere statistic that almost $80 billion of social security taxes have been collected, is still another reason for trying to make an over-all appraisal at the present time.

This was and is an omnibus law. A discussion of the trend of the development of social security can be far sharper if the public assistance and unemployment insurance programs are excluded. This is not for the purpose of attempting to understate the importance of these other programs but rather to make the present task somewhat simpler. Some reference will be made to Old Age Assistance in this discussion; moreover, most references to the "social security principle" involve only OASDI, the "contributory" systems.

The 1960 Amendments

The amendments of 1960 helped to define the general pattern of social security legislation. Perhaps the most important provision was the elimination of age 50 as the minimum for disability benefits,

[1] Several sources were used extensively in preparation of this article. The first was, "Misconceptions and Missing Perceptions of Our Social Security System (Actuarial Anesthesia)," reprinted from the *Transactions of the Society of Actuaries*, Volume XI, Meeting No. 31, November 1959. The reprint contains the paper of this title by Ray M. Peterson (812-851), the discussion of the paper by twelve actuaries (852-893), and Mr. Peterson's review of the discussions (893-919). The second general source was the series of actuarial studies of the Social Security Administration developed under the direction of Robert J. Myers, particularly studies No. 40-49. The third source was another publication of the Social Security Administration, "The Social Security Act: Its First Twenty-five Years," *Social Security Bulletin*, August 1960. Considerable use was also made of a number of articles in the *Social Security Bulletin* and in some actuarial publications. The selection of items and general background reading was only a small sample of the vast amount of literature available on this subject. The literature on the tax side is less extensive than that on the benefits side.

[2] Remarks by Senator Javits, p. 15, 954, *Congressional Record* for August 23, 1960.

the "D" in OASDI. The disability income system, effective in 1957, has a rather short history and the emerging pattern is a little difficult to discern. Students of insurance, familiar with the history of the loss experience under disability clauses of life insurance policies, will recall that disability has a historical pattern of rather small losses for a number of years. Then when a great depression comes along, the loss ratio may increase from some modest figure, such as 25 per cent, to 200 or more per cent. The disability experience has thus far been favorable and the Disability Trust Fund has grown rather steadily. Moreover, the role to be played by unemployment insurance in relation to disability benefits, in the event of a prolonged depression, is by no means clear. Perhaps it would be necessary to consider unemployment insurance and disability protection together in a long depression. Hence, this article will give only minor attention to the "D" in OASDI.

Several other features of the 1960 legislation also help to reveal the general pattern of development. The retirement test was eased so that persons aged 65-72, earning more than $1,200 a year, would lose only one dollar of benefits for each two dollars earned between $1,200 and $1,500. Under the new law, one dollar of benefits will be lost for each dollar earned between $1,500 and $1,800. (Briefly, by the old rule, one month's pension was sacrificed for each $80 or fraction thereof earned in excess of $1,200 in a year.) The weakening of the retirement test should increase the number of persons in the age group 65 to 72 years who will receive OASI pensions.

A second feature of the 1960 amendments was a series of changes which will make it easier for some workers to qualify for pensions. The agreement between the House and the Senate, under considerable pressure, on medical care for the aged, finally resulted in a compromise measure to keep these benefits within budgetary control by adding certain benefits under Old Age Assistance, a state-federal program. This is, therefore, an assistance, not an "insurance" or "contributory" program. The circumstances under which this agreement was reached between the House and the Senate suggest, however, that the future of this type of legislation is still open to question. The alternative measures (Forand and Kennedy-Anderson bills) would have brought the new coverage under the OASI "contributory" system.

Get 85 Per Cent, Pay 5 Per Cent

Approximately 85 per cent of the OASI benefits in 1959 was paid to retired persons 65 years of age and over (including some women 62 to 65 years of age). The effect of the amendments of 1960 on this ratio will not be clear for some time to come. The weakening of the retirement test will tend to increase this percentage. (The removal of age 50 as the minimum age for disability benefits would decrease the comparable percentage for OASDI; the 85 per cent refers only to OASI.) The direction, on balance, is not possible to determine at the present time. The important fact is that 85 per cent of the OASI benefit dollars, at the present time is paid to retired persons; of the tax dollars paid, only 5 per cent are paid by persons age 65 and over. The retired are "favored" by a ratio of about 85 to 15 on benefits received; and by a ratio of 5 to 95 on taxes paid. These ratios would seem to throw into clear relief the contentions of some that the trend in OASI is towards a balanced program for both the old and the young.

Transfer Payments from the Young

In the general economic sense, OASI is a system which features transfer payments from the young to the old. There has been, as yet, no general support for

new amendments which would primarily benefit the young. The two most common features of some social security systems in other countries, which would bring this about, namely, maternity benefits and the child endowment, have not been widely discussed in the United States. (Rather, methods to reduce population growth are receiving more attention.) Moreover, the greatest likelihood at the present writing, would be for some kind of legislation based on the social security principle, to finance the medical and hospital care of retired citizens, such as was proposed under the Forand and Kennedy-Anderson bills in 1960; and for further increases in the amounts of OASI pensions. Such measures would, of course, provide outright transfer payments from the young to the old.

In a more popular vein, one might say that such bills would require young bankers to pay the hospital (and the medical) bills of retired bankers, require working farmers to pay the health bills of retired farmers, require young laboring people to pay the medical and hospital bills of retired laborers. One could carry this description of the transfer payments into the area of the traditional income distributions: these proposals would require the rich young to pay the hospital and medical bills of the rich old, the middle-income young to pay the health bills of the middle-income old, and the poor young to pay the hospital and medical care bills of the poor old; and the six criss-cross pairings which could be made. Nothing of practical importance appears on the horizon which would indicate that the percentage of payments to the retired under OASI would fall much below 85 per cent in the near future.

This establishes one emerging pattern quite clearly. Social security legislation as regards OASI in the United States has, after 25 years, become rather well established as a system of transfer payments from the young to the old. Many students of social security programs will agree that this is what has happened and is what should have happened. Nevertheless, it furnishes the first pattern clearly emerging after a quarter century.

Legal Accuracy

There is a strange contrast between the voluminous hearings before the Commitees of the House and the Senate on the many amendments to the Social Security Act and some Social Security Administration pronouncements, and, on the other hand, what might be called legal pronouncements. The Supreme Court, in 1936, in *Helvering v. Davis* (301 U.S. 619, 640), clearly indicated that the Social Security Act (OASI) was constitutional because the system of Old Age Benefits was a form of public charity. Also in the government's brief for Arthur S. Flemming, Secretary of the Department of Health, Education and Welfare, in the recent case of *Flemming v. Nestor*, the pronouncement (1959) was again that social security was a welfare instrument. The court agreed. This charity concept is also found in the reasoning of the Internal Revenue Service that social security benefits were considered tax exempt because they came within the scope of the tax law exempting from taxation "the value of property acquired by gift" (I.T. 3447, *Cumulative Bulletin*, 1941-1, p. 191). If one were to treat merely the legal aspects of this developing program, there would be very little difficulty in observing a rather consistent pattern starting with the first court decision bearing on the constitutionality of the original Social Security Act. That pattern is that there is no necessary relationship between taxes paid and benefits received and that the OASI benefits should be viewed as coming under the general statutes regarding gifts.

Maximum Taxes Paid

Some simple observations about social security taxes may help to bring the problem of definition into sharper focus. During the period 1937-1949, the (OASI) tax was 1 per cent on maximum wages of $3,000, or a maximum tax of $30 a year for an employee. During this thirteen-year period, a person who was continuously employed in a covered position at an annual wage of $3,000 or more and paid his tax every year, would have paid $390. The maximum tax in 1950 was $45, as shown in Table 1. In 1959, he would have paid $120, 2½ per cent of $4,800; and in 1960 he would have paid $144, 3 per cent of $4,800. Thus, the maximum taxes that could have been paid by an employee during the 24 years, Jan. 1, 1937 to Dec. 31, 1960, was $1,290. (Separating out the ¼ per cent tax for disability would introduce a refinement which would be confusing for the present purposes.) If we were to deduct from that amount roughly $190, the balance of $1,100 could be said to be the net payment by the individual who has worked and paid maximum taxes every month. The $190 could be considered a very rough approximation of the value of the protection received before attaining age 65—survivorship benefits, lump sum death benefit, and since January 1, 1957, disability protection.

TABLE 1

MAXIMUM EMPLOYEE SOCIAL SECURITY TAXES

Years	*Tax Rate*	*Base*	*Maximum Taxes*
1937-49	1%	$3,000	$ 390
1950	1½	3,000	45
1951-53	1½	3,600	162
1954	2	3,600	72
1955-56	2	4,200	168
1957-58	2¼	4,200	180
1959	2½	4,800	120
1960	3	4,800	144
Total, 1937-60			$1,290

Approximate amounts will simplify this search for the emerging social security principle. This procedure omits the whole question of interest on the OASI Trust Fund. Currently, interest earnings on the OASI Trust Fund are being used to pay current claims. If interest may be, for the moment, disregarded, we can say that this maximum case represents $1,100 in taxes. (This $1,100 is not represented by government bonds set aside in Washington, as most of the revenue received during the 24-year period was spent to pay concurrent benefits. Hence "prepayment" and "prepaid" are used in a very restricted sense herein.)

Maximum "Prepaid" Pension

How large an annuity can be purchased by $1,100? For the sake of simplicity, let us assume that we are dealing with a male life whose average remaining lifetime at age 65 is 157 months. The $1,100 could be, so to speak, cut up into 157 checks of $7.00 a month. (Again, there is no current interest accumulation.) The question of the *employer's contributions* in this setting would perhaps be handled with greater satisfaction for all students of social security if they were set aside for use when the person attains age 72 and the retirement test is no longer applicable. Thus, it is clear, within the framework of these simple assumptions, that the maximum monthly pension which could have been "prepaid" by the end of 1960, by a person who paid maximum taxes every month beginning January 1937, is about $7.00 a month. Contrast this maximum with the current average pension of about $85.00 a month for persons who are now retiring. Moreover, it may be simpler to exclude the fact that the average age at retirement for males and females is about 68 years, and refer to a male attaining age 65 at the end of 1960. The purpose here is not so much statistical as it is to describe the emerging "social security principle." The difference between the pension of $7.00 a month and

one of $85.00 a month, represents the amount that has not been "prepaid" by the worker during his lifetime.

A Claims Fluctuation Fund

Another way to discern the emerging social security principle is to examine the aggregates. The unfunded liability has been estimated at what would probably be about $350 billion after the 1960 amendments by Robert J. Myers, Actuary of the Social Security Administration. A former Actuary of the Social Security Administration, W. R. Williamson, estimates the same liability at about $650 billion. This is hardly the place to consider their conflicting estimates of the amount of the unfunded reserve liability. (Currently there is no apparent reason to use interest and discount factors in the formulas.) For our purpose, we will split the difference and assume that the unfunded liability is about $500 billion. This is an aggregate type of measure of the amounts of taxes not paid and not to be paid in the future by those now covered—the windfall.

The balance in the OASI Trust Fund was slightly over $2 billion at the end of 1940, slightly over $7 billion in 1945, almost $14 billion in 1950, and $20½ billion in 1954. The first amendments enacted by a Republican administration, were those of 1954; these amendments gave important direction to the social security principle. In 1956 and 1957 the assets were about $22½ billion. Since then the balance in the fund has been declining until it is now below $20 billion, as shown in Table 2.

In passing, it should be remembered that the original act provided for a maximum employee tax of $90 in 1949 and that these provisions for increasing the maximum tax from $30 to $90 were rejected during World War II by actions of Congress. Otherwise, the progress of the OASI Trust Fund might have been considerably more rapid. Nevertheless, the action of Congress in refusing to allow scheduled tax rate increases to become effective during the 1940's is part of the story of the emerging social security principle.

TABLE 2

Assets of OASI Trust Fund

Year	*Amount ($ billion)*
1937	0.8
1938	1.1
1939	1.7
1940	2.0
1941	2.8
1942	3.7
1943	4.8
1944	6.0
1945	7.1
1946	8.2
1947	9.4
1948	10.7
1949	11.8
1950	13.7
1951	15.5
1952	17.4
1953	18.7
1954	20.6
1955	21.7
1956	22.5
1957	22.4
1958	21.9
1959	20.1

The amendments of 1960 provided increases in benefits and weakened the retirement test, without increasing the tax rate. For the immediate future, therefore, it seems unlikely that the OASI Trust Fund will rise much above $20 billion. The provision for an increase in the tax on the employer and the employee, from 3 per cent each to 3½ per cent each, effective January 1, 1963, would seem to assure only a fleeting "shot in the arm." There are many students of this problem who think that the time has come when it will not be politically possible to raise the tax rate, as provided under the present schedule, without giving additional benefits. The schedule also provides that the rate will be increased from 3½ per cent to 4 per cent in 1966 and to 4½ per cent in 1969. (The tax rate for the self-employed is fixed at 50 per cent greater than the tax rate for the employee.)

Another part of the social security principle emerges. The OASI Trust Fund may be expected to fluctuate between $15 and $25 billion during the 1960's, equal to, say, one to two years' claims. Compared to the unfunded reserve liability (say, $500 billion), the OASI Trust Fund has become only a relatively small but essential *claims fluctuation fund.* Its present size is the result of changing concepts of the social security principle, changes which cannot be reviewed herein.

A Doctrine of Sovereignty

A doctrine or attribute of sovereignty is preventing the social security principle from becoming an insurance principle. This relationship of the inherent powers of government to the problem at hand, may be clearly illustrated by reference to other retirement laws. President Eisenhower vetoed a proposal to increase the funds in the Civil Service Retirement System by over one-half billion dollars. Members of Congress had noted the report of the actuaries, which showed an unfunded liability of $17.3 billion in mid-year 1956 (27.5 billion in mid-year 1958) and had sought to reduce that liability slightly by appropriating some half billion dollars to the Civil Service Retirement Fund. The President objected on the grounds that it would increase the deficit, which was scheduled to be $12 billion for the fiscal year. The President and others also raised the question about the desirability of having a fully funded retirement system for employees of government. The concluding paragraph of President Eisenhower's veto message of August 4, 1958 to the House of Representatives, 85th Congress, in returning H.R. 11574 (*Congressional Record* for August 4, 1958, page 14675) was:

> It is true that this favorable balance in the fund will not continue indefinitely. However, while there may be compelling reasons for full funding of private pension plans to insure employees that they will receive earned benefits even though the employer goes out of business, no such eventuality faces the employees of the Federal Government. The Retirement Act promises to make certain payments under specified conditions, and regardless of the size of the balance in the retirement fund at any particular time, these benefits will be paid because the promise to do so is backed by the Government. To assume otherwise is to call into question the full faith and credit of the United States Government.

It is inevitable, at least in the American political system, that legislators will prefer to postpone until later years, the levying of taxes and the raising of the necessary revenues to defray the deferred costs of a pension system. Why hurry? The power to tax will not disappear. This springs from the basic notion that the government is a sovereign power. My government has a lien on my future income subject to the limitations imposed by its three branches—the legislative, the executive, and the judicial (constitution). The unfunded liabilities under government pension programs are merely additions to public debt owned internally.

Professors in many state universities have seen the same attribute or doctrine working at closer range, in the refusal of the governor and the members of the legislature to vote funds not concurrently needed for benefits but prudently necessary to fund a pension plan for university employees. The same argument is raised in the local setting as is raised at the federal level. Why should the governor and the members of the state legislature currently vote taxes in order to obtain revenues to pay funds into a university retirement system, to meet certain reserve liability calculations of an actuary, when those sums are not concurrently needed to pay benefits? Why shouldn't they give the legislators and the governor ten years hence, or twenty or more years hence, the task of raising the revenues to meet the

disbursements of the pension system at that time?

This unwillingness on the part of the legislative and executive branches of the sovereign government to tax now to increase the reserve funds of a pension plan for employees of that government is based upon a concept of sovereignty, perpetuity. They can point out, too, with great force, that the continuity of the opportunity for public employment, the permanence of the state university, is dependent upon the good will and the willingness of future legislators to appropriate funds for meeting the payrolls. If that must be taken in good faith, then why shouldn't the persons covered by the pension plan for public employees take, in good faith, the willingness of future legislators and governors (congressmen, senators, and presidents) to meet the concurrent costs or expenditures of the pension system?

This is the fundamental doctrine of sovereignty of government, applied to the problem of developing an insurance principle, a fully funded, equitable pension system. The experience of the past two decades with the Social Security Act and pension systems for the employees of government, clearly points to the fact that there is no likelihood of OASI becoming an insurance plan. It will remain a tax plan in which there is a huge transfer payment from the young to the old, with, as noted above, something like 15 per cent of the benefits being paid to those who have not yet retired. This helps to clarify the emerging principle which has been referred to above as the social security principle. It raises again for the student the fundamental question of whether the sovereign power can, by its very nature, develop an insurance system.

If the Social Security principle is not a legal reserve principle, then what is it? It is believed that students of insurance can find in the history of fraternal assessment life insurance, both a counterpart for the social security principle and some ideas for reform of OASI taxes.

From 4 to 5 Per Cent "Prepaid"

This image is well supported by a final piece of evidence. At the end of 1952, about 4 per cent of the benefits had, on the average, been "prepaid" by the employee and the employer before retirement. This percentage was derived from a sample study undertaken at the Baltimore office of the Social Security Administration, on behalf of a subcommittee of the Ways and Means Committee and reported, on page 70, in its findings.[3]

There have been certain changes in the methods of record-keeping at Baltimore which have made it very difficult to compute the comparable percentages for later years but, according to W. R. Williamson, a reasonable estimate before the 1960 amendments were enacted, would be about 5 per cent instead of 4 per cent. (If the employer's taxes are considered as general revenue, the percentages of "prepayment" for the employee's taxes alone are, of course, 2½ and 2.) That is, between 1952 and 1959, only 1 percentage point was gained in the relationship between their "prepayment" (by the employee and his employer), on the average, and their retirement benefits, on the average. It does seem rather startling that, after more than 20 years of operation, it has not been possible to develop the OASI system so that the combined taxes paid by the employer and employee could "prepay" more than 5 per cent of the cost of the pension benefits, on the average.

OASI Resembles OAA

Currently, OASI pensions are about 95 per cent "Old Age Assistance." The heated arguments of last spring and summer regarding the Forand and Kennedy-

[3] *Social Security After 18 Years*, Committee on Ways and Means, House of Representatives, 83rd Congress, 2nd Session.

Anderson bills, based on the social security principle, and the Administration bill, based on the Old Age Assistance approach, were largely centered on a distinction with little difference. The actual difference in the two approaches was the difference between two systems one of which is currently 95 per cent and the other 100 per cent public charity!

Accordingly, OASI, insofar as retired persons are concerned, is very similar to Old Age Assistance; and has been during the entire period. This similarity undoubtedly accounts for much of the popularity of Old Age and Survivors Insurance as old age pensions can be obtained for so much less than similar protection in the open market from insurance companies. A pension, which is 95 per cent public charity (without a means test), has been made more palatable by the simple device of miscalling it "insurance." (The economic and social differences between this 95 per cent windfall and those under the past-service credit features of employer-employee pension systems are obviously beyond the scope of this article.) It is an open invitation, of course, for the older voters to gang up on the younger voters. The Great Depression of the 1930's would seem to provide no rationale today, except among the older retired, say those over age 80, who retired too soon after the Great Depression to recoup their lost savings. One must examine the population statistics in order to obtain a political rationale.

The average age at which persons "turn West" and start to worry about retirement problems is, perhaps, 50 years. The proportion of voters 50 years of age and over a half century ago, was approximately 24 per cent, whereas it is now 38 per cent. This shift of 14 voters per 100 has produced rather widespread concern in the legislative and executive branches of government, regarding the demands by older voters for transfer payments from younger voters. This force of the older voters should continue until about 1970, when the onrush of the brand new voters born since World War II, will provide a balance. After 1970, the proportion of older voters will start to decline from the peak of 40 per cent. The aging of the electorate will end. The younging of the electorate will begin. No inference is warranted, however, that political attitudes toward Old Age and Survivors Insurance are based solely upon the matter of age.

Fraternal Assessment Societies

The emerging image of social security is similar to the image of fraternals. Fraternal assessment insurance was very popular in the United States at the turn of the century. These societies sprang up all over the country, particularly in the Middle West, where men and women joined together to form societies (lodges), not only from a desire for brotherhood but also from a desire to enjoy very cheap life insurance rates. They usually excluded from their membership all persons over 45 years of age and, more often than not, required the applicant to pass a medical examination. All members, being equals, were charged the same assessment when a death occurred. The balance in the treasury usually was sufficient to pay one death claim. The society enjoyed a very favorable mortality experience during the first five or ten years. There are many instances of fraternal assessment societies being able, during the first ten years, to furnish life insurance to their membership at an average cost of one-third of that of a level premium plan for the same membership.

This assessment insurance system of fraternals worked very well indeed for the charter members (and those who joined soon after), who died within the first 10 to 20 years after organization. But as time went on, the death rates increased

and the number of assessments per year, rose. These increases came rather slowly at first and then at an accelerated rate. The death knell of the fraternal assessment societies came when the rates for a young man, say age 20, began to approach or threatened to approach the amount of the level legal-reserve premium rate. Then young men, despite the entreaties of their uncles, aunts, and parents to join the fraternal society, preferred level premium insurance because of the understandable fear that the number of assessments per year would rise even further in the future. Bankruptcy or reorganization followed.

A Different Future for OASI?

Will the social security principle someday face a death knell as did the fraternal assessment insurance principle? When? Prior to the 1960 amendments, the taxes (premiums) to be paid over the years by the employer and the employee, for a young man of age 20, were about 170 per cent of the actuarial value of the benefits. (Loading for expenses is another and complex subject.) When that figure approaches 200 per cent, the problem faced by the fraternal assessment societies may have to be faced in the social security operations.[4] One cannot quite predict when it might come.

It could occur before 1969; it would emerge slowly. The schedule of triennial increases of ½ per cent already provides that the tax rate shall be boosted from its present 3 per cent (of $4,800), to 3½ per cent in 1963, 4 per cent in 1966 and to 4½ per cent in 1969. (This schedule can be changed, as no contractual obligation of government is involved.) Apparently, the actuarial value of the benefits is already less than the actuarial value of the taxes to be paid for a self-employed person entering the system at age 20.

There are at least two reasons, however, why OASI will not necessarily face quite the same death knell which the fraternals faced when the (uniform) assessment premium rate began to approach the level premium rate for a person of age 20. First, there is the sovereign power of government which can compel all young people to join the system. This is inherent in sovereignty; the power to tax is obviously a basic power of government. This difference, however, can be overemphasized because in a democratic society the young have the right to protest. It would appear quite clear that the time is coming when they will protest, at least against paying the same rate of tax as older workers who will pay into the OASI Trust Fund many fewer years. The development of this protest by youth could occur before the end of this decade. There is a second reason why the approach to this danger point may be forestalled by future changes in the Social Security Act. Mention has already been made of the possibility of developing maternity benefits and child endowment benefits which would directly aid young families. Such changes in the Social Security Act now appear to be very unlikely.

Ever Rising Benefits

The possibility of reducing or eliminating this revolt of youth by keeping before the young people the prospect of future amendments by Congress increasing the benefits before and after retirement is another matter. The history of successive increases in the benefits in the past decade does strongly suggest that young entrants at age 20 would lessen their protest against their unfair share of the tax burden if they thought that they

[4] The "danger point" referred to was very clearly described in 1955, in Actuarial Study No. 40 of the Social Security Administration (page 3), by Robert J. Myers. ". . . the eventual contributions should not be so high that young entrants could purchase more protection with their own contributions from a private insurance company."

might later gain the advantage of increases in benefits enacted by Congress in the 1960's and, indeed, in the 1970's, on a scale comparable to the increase in benefits enacted by Congress during the 1950's. This process of almost continuous increases in old age pensions alone raises a number of very fundamental questions for our society. It implies to the young that we who are older have been requiring transfer payments from them and that the way for them to get even is to "go thou and do likewise" to the generation which follows them. Such a standard of exploitation of the young, with a somewhat ruthless type of justification, will surely lead to grave consequences. At the very least, it will place our society on a most uncomfortable treadmill of time. Add a dose of inflation, and even an affluent society might go adrift. This need not happen if we profit from the failures of the early fraternals. This low level of social morality has enormous implications which cannot, however, be treated in this short article.

A Contrary View

In this analysis of the emerging social security principle—the image—opposing arguments must be left to students who differ with this delineation. One such view, however, requires some comment. In the literature on social security, particularly in England, equating cost and value at age of entry has been regarded as a desirable feature. As stated above, OASI taxes and benefits for a new entrant at age 20 are approaching actuarial equality—the value of lifetime taxes (of both employer and employee) is approaching 200 per cent of the value of lifetime benefits to the employee. According to this opposing point of view, the sooner this equality is achieved, the better; the attainment of this equality is said to mark the emergence of a more stable period. (Aggregate taxes are currently equal to only ⅖ of aggregate actuarial costs—the treadmill of time.[5]) It is believed that the young will protest and will request at least a step-rate, lower tax rate for the young. The power to levy uniform or graduated taxes on the wages of covered persons is beyond question one of the inherent attributes of sovereignty. The protest of the young, withdrawal of membership and refusal to join, against the old fraternals, wrecked those early voluntary experiments in assessmentism (the present social security principle). The young entrants cannot be expected to protest as long as they are taught falsely that the social security principle is the insurance principle.

A Lesson from the Fraternals

One of the reforms which prolonged the existence of some fraternals by a decade or more can be adapted to strengthen and prolong the OASI system.[6] One type of amendment—changing the tax rate but not the benefits—could forestall the danger point comparable to that reached in the development of fraternal assessment societies, all of which have either gone into bankruptcy or have been reorganized on a legal reserve premium basis. Such an amendment would call for a step-rate tax plan instead of the present flat rate of tax regardless of age. The OASI tax rate could be reduced from 3 per cent to 1½ per cent for those under

[5] *T.S.A., op cit.*, page 815. "Present members and their employers, as a class, pay only about 42 per cent of the value of their benefits. . . ." The 42 per cent was computed prior to the 1958 amendments. See also Actuarial Study No. 48, page 20.

[6] Apparently the age-at-entry assessment rates (47 stairsteps, 18-65) of some of the more progressive fraternal assessment societies enabled the societies to exist about a decade longer than those lodges which insisted on all "brothers and sisters" paying the same rate regardless of attained age. Their improved step-rate plan, based on age-at-entry, cannot be examined herein.

32 years of age, with the rate for those 32 to 49 years remaining at 3 per cent, and the rate for those 50 and over increased to 4½ per cent. The maximum annual taxes would be $72, $144, and $216, instead of $144 for all employees. Theoretically, 47 stairsteps in the tax rate between ages 18 and 65 would be desirable but three stairsteps might be as many as government could administer.[7]

According to the data available, the decrease in revenue resulting from the reduction in the tax rate for the younger workers would be offset by the increase in revenue resulting from the increase in the tax rate from 3 to 4½ per cent for persons 50 years of age and over. The aggregate revenue would not be increased or decreased; and obviously there would be no change in benefits. This one, two, three stairstep plan is based upon attained age and would present a stair which the individual would climb as he passes through time. But large shifts in the age-earnings distribution could, of course, require changes in the age limits of the middle group—ages 32-49 proposed above—in order to preserve the neutral effect of the three stairsteps on aggregate revenue.

Three Stairsteps

The advantage to the younger taxpayers would come from collecting additional revenue from those who are now 50 years of age or older. The sooner this amendment can be enacted, the greater will be the reduction of the tax burden for the younger workers. Also, immediate action will help to make the social security system more secure and postpone the evil day when, at least theoretically, the young entrant could purchase the protection for a lower premium than the taxes he is scheduled to pay. These are prudent considerations, quite apart from the essential justice of charging those who are going to pay into the OASI Trust Fund many years a lower amount per month than those who are going to pay in only a few years. Obviously, such an amendment would have to provide that the employer's tax rate would be the same, regardless of the age of his employees; apparently this average rate would currently be about 3.0 per cent, then about 3½ per cent in 1963, 4 per cent in 1966, etc. The willingness and ability of workers in the age 50 and over group—the group with relatively low family expenses, seniority job rights, high savings, and high incomes—is a separate subject. Their stake in OASI is most immediate and most pressing.

The proposed 1-2-3 stairstep tax rates for the three *attained* age groups and the annual taxes on $4,800 of wages through the scheduled changes for 1969 are summarized in tabular form in Table 3. The entries in columns (1) and (3) are, of course, taken from existing law; proposed changes are presented in columns (2) and (4).

This three-stairstep rate would imply that in 1963, the new tax rates for employees would be 1¾ per cent (of $4,800, or less) for the youngest age group, 3½ per cent for the middle age group, and 5¼ per cent for the group aged 50 and over; the maximum annual employee taxes for the three age groups would be $84, $168, and $252, instead of the uniform $168 for every attained age. In 1966, the stairsteps would be 2 per cent, 4 per cent, and 6 per cent; and maximums of $96, $192, and $288, not the uniform $192. In 1969, the stairsteps would be 2¼ per cent, 4½ per cent, and 6¾ per cent with maximums of $108, $216, and $324, not the uniform $216. Thus the triennial tax increases would be ¼ per cent, ½ per

[7] The Chairman of the House Committee on Ways and Means and staff members of the Social Security Administration have indicated to the author the administrative problems involved in this three-step proposal, especially the proof of attained age.

TABLE 3

ACTUAL AND PROPOSED TAX RATES AND MAXIMUM TAXES

	Employer (1)	*Employee Under 32 Yrs.** (2)	*Employee 32–49 Yrs.** (3)	*Employee Age 50 or Over** (4)
To Dec. 31, 1962	3% ($144)	1½% ($72)	3% ($144)	4½% ($216)
Jan. 1, 1963 to Dec. 31, 1965	3½% ($168)	1¾% ($84)	3½% ($168)	5¼% ($252)
Jan. 1, 1966 to Dec. 31, 1968	4% ($192)	2% ($96)	4% ($192)	6% ($288)
Jan. 1, 1969 to ?	4½% ($216)	2¼% ($108)	4½% ($216)	6¾% ($324)
	rise = ½% rise = $24	rise = ¼% rise = $12	rise = ½% rise = $24	rise = ¾% rise = $36

* The self-employed rates and taxes would be, of course, one-half higher.

cent, and ¾ per cent instead of the uniform schedule of ½ per cent for all ages, if the basic stairsteps of 1½, 3, and 4½ per cent were enacted before 1963.

This 1-2-3 stairstep tax reform would create a more equitable and stronger system, and would correct one of the sources of failure of fraternal assessment life insurance schemes, which the social security principle now closely resembles. This tax reform would reduce the transfer payments from the young to the old, to a small extent. The tax rate for new entrants in 1969, 2¼ per cent, would be only one-half of the scheduled flat rate and well below the danger point. This reform could initiate a series of reforms designed to provide a more equitable distribution of the tax burden. It is too late to even hope for a full pre-payment system with the equitable relationships of a full legal reserve system.

This 1-2-3 stairstep tax proposal is, indeed, a very modest reform. It would slowly reduce the public charity element. It would leave complete rationalization of the reformed OASI, however, to such noninsurance considerations as philanthropic motivations, economic growth, inflation, the aging of the electorate, and the apparent slowdown in the lengthening of life.[8]

[8] See the author's article, "The Threescore-Years-and-Ten Plateau," Conference of Actuaries in Public Practice, *The Proceedings, 1959-1960*, Vol. IX, pp. 362-371.

Other Reforms

There are other reforms which might be considered along with the three stairstep rates of taxation outlined above, if this delineation of the social security principle is correct. First, all publications and releases of the Social Security Administration should properly describe the social security principle and not call it an insurance principle unless the word assessment is used therein. Second, it might be well to abandon the use of the term, "actuarial soundness," which has no particular applicability to fraternal assessment insurance. This comment implies no disrespect for the very fine actuarial studies that have been published by the Social Security Administration. It may continue to be necessary to look about ten years ahead in judging the merits of contemplated changes in the Social Security Act.

The retirement test should be changed to strengthen the other reforms. If persons who continue to work between age 65 and 72 were permitted to receive a pension for which their own personal taxes had "prepaid" the cost, it might be possible to ease the political pressure on Congress to continue weakening the retirement test. Although the maximum "prepaid" pension of $7.00 a month, computed above, would rise in the future, it can be contended that the weakening of the retirement test is going to produce a trend towards Townsendism and very

high costs. The fundamental purpose of the Social Security Act (by 1940) was not to pay pensions when a person attained age 65, but on the further condition that he also be retired from employment. These changes in the retirement test have, of course, helped to undermine the validity of many of the fine actuarial projections that have been published from time to time by the Social Security Administration.

Conclusions

The social security (OASI) principle is fraternal assessment insurance backed by the sovereign power of taxation and a claims fluctuation fund (OASI Trust Fund). Functionally, this principle differs little from Old Age Assistance, and it involves large transfer payments from the young to the old. A 1-2-3 stairstep tax rate, replacing the present uniform flat rate for all ages, would strengthen OASI.

In this article it has been possible to submit only a selected group of facts bearing on the heart of the question. One of the major needs at the present time is to stop, look, and listen before additional benefits are enacted and the tax rates are increased. This is an excellent time for a full-scale study and review of the social security system.

Ours is the first century of the long life for the many! OASI is far too important to warrant only a patchwork quilt future. Whither is it to go? Is it to go down the road of Townsendism? Is it to repeat the errors of fraternal assessment life insurance? Will savings at retirement increase as the Great Depression recedes further into the past? Is this "contributory" system the final answer? Does it create too much pressure for more benefits, because of the illusion that present benefits "are mine, I have paid for them"? Since OASI resembles OAA, would some merger under budgetary control (as in Australia) be superior to our two systems, one "contributory" and one public charity? Or should the "contributory" system be reformed and continued while the "noncontributory" system proceeds toward some lower asymptote? Can a reformed OASI provide reasonable security for old age (and reasonable protection before retirement), based upon a reasonable distribution of the tax burden and the inherent attributes of sovereignty? These and related questions can only be properly answered by a full-scale study of the social security system, particularly of OASDI, and the manner in which it has functioned since its beginning. That study has not yet been made.

THE CHALLENGE OF AGING TO INSURANCE

WILBUR J. COHEN

The University of Michigan

The economic, social and medical problems of the aged have long been of concern to those who believe that insurance institutions can make a significant contribution to the welfare of people. This concern, however, is not the exclusive preoccupation of private insurance or of voluntary agencies. The welfare of the aged is both a private and public concern, an individual and a societal concern. The challenging and controversial issue of the sixties is how to delineate these respective responsibilities and how to weave them together into a total pattern which will meet social needs reasonably adequately and in a responsive and responsible manner.

The Challenge of Aging

Two of the big problems of old people are the need for continuing income to meet reasonable maintenance needs and for access to and the payment for all the medical services required. Insurance is an institutional mechanism which can help meet these needs better than some other methods. As our population grows and a larger number and proportion are aged, it becomes clear that insurance arrangements must be modified and must be expanded to meet these needs of older people and of the society in which they live. Moreover, the insurance arrangements must be designed to meet these needs among a population that is mobile, becoming more affluent amidst persistent poverty, and is becoming increasingly concerned with the quality, as well as the costs, of medical care.

The extent of occupational, industrial and geographical mobility which occurs in the United States is more pronounced than in any other country in the world. This trend shows no sign of slowing down. It is a mark of the "open society," which we so widely herald and want to preserve.

On the other hand, employers are desirous of preserving their trusted, competent and skilled labor resources and have helped develop the many company pension, welfare and health plans which are in effect today. Along with salary promotions, vacations, seniority provisions and pension rights in relation to years of service with the employer, there have been some fears expressed from time to time that this may make our people less mobile and too "security conscious." Despite these fears usually expressed by columnists and editorial writers, there is no concrete evidence available to this author to support a general thesis of economic retardation due to "security consciousness" as a consequence of the spread of private and public insurance and benefit plans.

The extensive mobility of our population is one of the reasons why a basic single national social security system has been necessary. Obviously, a local or state-by-state program of public old age insurance would be impractical and undesirable. In the early days of social

security, some persons in the insurance industry suggested that employers with private pension plans be exempt from the basic governmental program. This proved to be impractical and was dropped. This form of "contracting out" was referred to as the Clark amendment. Senator Bennett Champ Clark of Missouri sponsored the amendment which passed the Senate in 1935 but which never became law. Representative Thomas Curtis of Missouri has introduced a "contracting out" proposal in Congress in recent years, but no serious consideration has been given to his proposal.

While there is no argument today over the necessity of having some "basic" public old age insurance program, there is a difference as to the scope and adequacy of the benefits of the public insurance program. Most of the insurance industry has vigorously opposed the most recent increases in the level of old age insurance benefits and the addition, in 1956, of disability insurance benefits.

Developments During 1939-1956

In the area of life insurance, the insurance industry did not oppose the establishment of survivors insurance benefits, in 1939, as part of the social security system. Several insurance representatives were instrumental in its formulation and passage. Nor has the insurance industry had reason to regret its action. Not only has social security not impeded the overall growth of private life insurance, but it has helped it to sell more insurance, especially to persons who were not previously insured.

In the area of permanent disability insurance, there is a completely different story. Here the insurance industry decided to oppose its inauguration, as a matter of principle. For over ten years the representatives of the insurance industry opposed any form of disability insurance coverage in the social security system. They won several initial skirmishes in 1948, 1950, and 1955-6, but finally lost the war in 1956, when Congress overrode their objections. They capitulated in 1960, by not opposing the repeal of the age 50 limitation.

The insurance industry and insurance agents are as opposed to the establishment of a basic public medical insurance program for the aged as they were to disability insurance under social security. As a result, the insurance industry finds itself allied with employers' associations and medical associations, in opposing the extension of public responsibility at the Federal level for any medical services program utilizing the insurance approach under social security.

The financial and medical needs of the aged pose serious policy issues for the insurance industry in the coming decade. It is most likely that both public and private insurance protection in these areas will increase. This will mean that private insurance and public social insurance will either have to fight it out in the legislative arena, to determine their respective roles and relationships, or they will have to learn how to live together under some "co-existence" formula.

During the period 1935-1945, the insurance industry attempted to cooperate with government and the supporters of social insurance, and avoided a clash. Since 1945, the insurance industry has followed the policy of opposing most major social insurance improvements. As a result, the expansion of social insurance has been retarded. However, the same tactics have served to identify in the minds of many persons, that the insurance industry is "arrogant" in its power, and monopolistic and antisocial in effect. The eventual result may mean that the insurance industry may win many legislative battles in the Federal arena, but lose "the war." In other words, the only alternative may be Federal controls over private insur-

ance policies to assure that private insurance operates in the public interest. As the attacks by the insurance industry against social insurance mount in intensity, the insurance industry must expect a mounting opposition. It is a law of science and politics, that every action produces a reaction.

Medical Care Insurance

In the field of medical insurance for the aged, the issue of a basic public plan is now being debated. It has been debated for several years and the issue is rapidly coming to a head. The advocates of the Forand bill and the Anderson-Kennedy amendment, argue that the social security approach should be utilized to establish a basic program of medical insurance for the aged. The insurance industry has joined in the opposition to such a proposal.

There is, of course, a significant difference between programs providing for income maintenance as a partial reimbursement for wage loss, and a medical services program. In the former case, supplementation by private insurance is practical and feasible without adverse selection or overinsurance. But, in a medical insurance program, if supplementation is desired, it must be carefully built into the basic program by designing the scope of the benefits. This would be possible if the insurance industry were willing to cooperate in the formulation of a program which would recognize public responsibilty for certain basic medical services and leave other medical services as supplementary benefits to be provided by other methods, including private insurance. There does not seem any possibility of this happening at this time. But, who knows, 1961 may bring some new forces and new ideas into the picture.

A Legislative Program

On several occasions, I have outlined a legislative program which I believe will be enacted into law during the coming decade, irrespective of which political party is in power. The main elements in this program are as follows:

(1) An increase in social insurance benefits averaging about 40 to 50 per cent above present levels;

(2) An increase in social insurance benefits for widows, somewhat larger than average, because their incomes are now the lowest of the aged;

(3) Family insurance benefits to widows with dependent children, improved so that when any breadwinner dies, his children will not be dependent on charity or relief;

(4) Provision under the social insurance system for a regular monthly income to all those who are totally disabled for any extended period of time, irrespective of age or type of disability;

(5) Financing the disabled individual's rehabilitation and retraining through the social insurance system, thus providing income security and, at the same time, helping him wherever possible, to regain independence, self-support, and independent living;

(6) Providing, through the social insurance program, a major share of the responsibility of financing hospital, home nursing, nursing home and outpatient diagnostic services for the aged disabled and survivors. By pooling employee and employer contributions, some of the heavy financial burdens of medical care should be spread over an individual's entire working life-time, and over the entire nation.

Ray Peterson, Vice-President and Actuary of the Equitable Life Assurance Society, has referred to my plans for the future as an "arrogant" assumption.[1]

[1] Ray M. Peterson, "Misconceptions and Missing Perceptions of our Social Security System (Actuarial Anesthesia)," and Discussion, *Transactions of the Society of Actuaries*, XI (November, 1959), 918.

All insurance planning, private and public, is "arrogant" by Mr. Peterson's assumption, because it attempts to commit future generations to pay out of their production for persons who are not currently productive (the sick, disabled, aged, etc.). Insurance is a mechanism which uses the present to commit the future to care for human needs.

I am not as pessimistic as those who are worried about the anesthesia of the past or the present. I believe we can and will have a period of tremendous economic growth in the United States. We can, therefore, expand protection against the major economic hazards of life, without either private or public insurance becoming a "burden" on society as a whole.

I believe the institution of insurance has tremendous potentialities during the decade ahead. But to accomplish our goal of fully meeting human needs, there must be an expanding role for both social and private insurance.

PENSIONS AND THE COST OF LIVING

WILLIAM F. MARPLES

Milliman and Robertson, Inc.

The reward a man receives for his labor determines the standard of comfort in which he can maintain himself and his dependents and includes his earnings while actively employed and his pension after retirement. The struggle to achieve adequate earnings while working, is a matter of past record (and of future negotiations), while the struggle to develop satisfactory pensions is just commencing. The practice of providing for the costs of living during old age, by the payment of a pension, is many thousands of years old. However, the practical aspects of making these payments out of specially accumulated funds, commenced only within the last 200 years or so. The payment of a pension out of such funds is an economic step forward of considerable magnitude, since potential consuming power is withheld and disbursed only after a considerable interval.

However, the disbursement in the form of a level pension now no longer appears as satisfactory as it once did. The recipient finds that the pension buys less each year, owing to steadily rising prices. The employer also is not entirely satisfied with the situation, since appeals are made to him for increases in the pension payments. The financial arrangements he has made with care and forethought, in order to dispose of what he had regarded as a moral obligation to retired employees, to his dismay no longer meets the need. He is concerned as to whether current claims of this nature may not set a precedent which he will find it difficult to live up to in the future.

The problem of meeting a rising cost of living thus extends through the period of active employment and into retirement. It makes itself felt both by the person who is living on his own savings and by the pensioner receiving payments from a pension plan. Perhaps the latter has less freedom in meeting the difficulties he faces. This may be due to the deterioration in his physical capacities and the consequent dependence on an income from a source which appears to be somewhat remote and lacking in human feelings. The resources of elderly persons are usually limited. Many who depend solely on their pensions, are reduced severely in their scale of living by the continual rise in the cost of things they must buy.

These events pose a dual problem to employers. The first is the ethical question as to whether, once an employer has provided a pension, he is morally liable to increase it if economic forces make it less adequate than it used to be. The second is the practical problem of what can be done to improve the financial structure of pension plans so as to be able to provide at least part of the desired increase. This may or may not involve additional contributions from the employer.

This paper discusses primarily the second of these problems.

Cost of Living

The rise in the cost of living is the root cause of these troubles and is measured by nation-wide index figures. The usual figure employed is the Consumer Price

Index, computed by the Bureau of Labor Statistics. This index is a mean price index, weighted in various proportions by the items which are purchased by a normal consumer. The Index was recomputed, with 1947-49 as 100, and extended back to cover earlier years. Table 1 shows the Consumer Price Index at intervals of five years, the percentage increase (or decrease) in the five years, and the average annual increase (or decrease) between 1913 and each of the other years shown.

TABLE 1

SHOWING THE CONSUMER PRICE INDEX (1947 – 49 = 100) AND THE AVERAGE ANNUAL INCREASE OVER CERTAIN PERIODS OF TIME

Year	*Consumer Price Index*	*Percentage Increase + or Decrease – In 5 Years*	*Average Annual Percentage Rate of Increase or Decrease Preceding 5 Years*	*Average Annual Percentage Rate of Increase Since 1913*
(1)	(2)	(3)	(4)	(5)
		%	%	%
1913	42.3			
1918	64.3	+ 52	+ 8.7	+ 8.7
1923	72.9	+ 13	+ 2.5	+ 5.5
1928	73.3	+ .6	+ .1	+ 3.7
1933	55.3	– 25	– 5.5	+ 1.4
1938	60.3	+ 12	+ 2.2	+ 1.4
1943	74.0	+ 23	+ 4.2	+ 1.9
1948	102.8	+ 39	+ 6.8	+ 2.6
1953	114.4	+ 11	+ 2.2	+ 2.5
1958	123.5	+ 8	+ 1.5	+ 2.4
1959	124.6	+ 8.5	+ 1.6	+ 2.4
1960 (July)	126.5	+ 10.5	+ 2.2	+ 2.4

In examining these figures, attention should be fixed on a few important points. It may first be noted that in the forty-five years between 1913 and 1958, the cost of living has trebled. In other words, it takes three times as many dollars to buy goods in 1958 as it did to buy the same list of items in 1913. Secondly, the trend has been continuously upward, except for one period of recession. The annual percentage rates of increase have varied considerably, but over the forty-seven years from 1913 to 1960, an average increase of about 2½ per cent per annum is shown. This is substantial and merits serious attention.

An alternative view of the situation may be taken, if world economic phases are brought into account. Professor Lorne Cook of Pomona College, recently pointed out that during the period 1939-59, the Consumer Price Index rose from 59 to 123 or by 64 points. Of this rise, the World War II period accounted for 17 points, the post war adjustment period, 1946-1948, for 25 points and the Korean War period for 12 points, a total of 54 points out of the 64. The conclusion may be drawn from these figures, that political disturbances are a major factor in the rise in the cost of living. If this is so, it is to be hoped that, with increasing political maturity, the world will learn to minimize such disturbances and so reduce the cost of living problem to manageable proportions. Government action taken to damp down the extremes in the fluctuations, may account in part for the declining tendency in the rate of increase in the cost of living in recent years.

To focus attention more acutely on the question of purchasing power, Table 2 shows the Consumer Price Index figures rearranged as the worth of a dollar in purchasing power.

TABLE 2

PURCHASING POWER OF THE DOLLAR: BASED ON C. P. I.

	Purchasing Power of a Dollar		
Year (1)	*Based on 1913 Cents* (2)	*Based on 1938 Cents* (3)	*Based on 1948 Cents* (4)
1913	100.0		
1918	65.8		
1923	58.0		
1928	47.7		
1933	76.5		
1938	70.1	100.0	
1943	57.2	81.5	
1948	41.1	58.7	100.0
1953	37.0	52.7	89.9
1958	34.3	48.8	83.2
1959	33.9	48.4	82.5
1960	33.4	47.7	81.3

Column (2) starts in the year just before the commencement of World War I. By the end of that war, in 1918, the purchasing power of the dollar had fallen by one-third. A further decline occurred in the next ten years, after which the depression in the early 1930's reversed the trend. The dollar climbed back, in 1933, to something more than three-quarters of its 1913 value. Over the period of World War II, the dollar again fell by about one-third and is now down to half its pre-World War II value or one-third of its pre-World War I value.

Column (3) shows the effect when 1938 is taken as 100. The time sequence of events following 1938, is similar to the sequence following 1913, yet at the end of five years, the reduction in purchasing power is only 18.5 per cent instead of 34.2 per cent. Similarly, Column (4) shows figures covering the Korean episode. The reduction this time, in five years, is 10.1 per cent only. Perhaps the reduction should have been less, since the scale of this upheaval was smaller than the two previous ones.

The progressive reduction in the loss of purchasing power of the dollar, may be taken as some evidence that improved currency management techniques are having their effect.

The Problem

Reduced to essentials, the problem of the individual is simply that of "making ends meet," both before and after retirement. During the period of active employment, the employee's earnings provide his living expenses, and as the cost of living increases, there is a tendency for salaries and wages to increase as a compensatory factor. It is also worthy of note that automatic escalator clauses are becoming common in negotiated wage agreements. In the future, these may have a greater part in the interplay of inflationary forces. These clauses provide an immediate wage increase as the result of an increase in the selected Cost of Living Index. This increase is paid by the employer, without negotiation and without consideration of the increase in productivity of the employees.

All in all, it appears reasonable to consider that the cost of living increases are reflected in the levels of salaries and wages paid during active employment. It follows logically, that if the pension payable on retirement is directly based upon the salary or wages at retirement, then the cost of living at the time of retirement will be reflected in the initial size of the pension granted.

However, provisions currently found in pension plans may constrict the connection between the amount of the pension and the cost of living at the date of retirement. For instance, plans for salaried employees, even when basing benefits on "final salary," commonly define the "final salary" as the average of a specified number of years prior to retirement. Under

such a provision, if the salary increases just prior to retirement have been sharp, the employee may have his pension calculated on an average salary which is well below his annual salary at retirement. On the other hand, if there had been little increase, the pensionable salary may be close to the actual salary.

Once the employee has retired and the pension has been granted, any relationship probably ceases between the employee's income and his cost of living. In most pension plans, there is no provision for any increment to the pension as the cost of living rises. Any action which may be taken is solely due to the compassion of the employer. Thus, cost of living increases tend to exert greater pressure on the emloyee when they occur after his retirement, then when they occur before his retirement.

The problem thus resolves itself into two parts:

(1) The initial determination of the pension and the degree to which that reflects levels of remuneration and cost of living at retirement;

(2) The subsequent period during which a level annual payment requires supplementing to maintain the original standard of living.

It should be noted that the method of meeting the liabilities for pensions ("funding" as it is called) is not a proper concern at this point. This question demands attention when consideration is given to the methods of supplementing pensions, either by a single amendment of the plan or by establishing a continuous adjustment operation.

Pensions: Salaried Employees

There are many methods of calculating pensions by reference to the amount of salary paid, either as a fixed proportion or as a proportion which varies with the length of service. Some systems provide one level of benefit below the Social Security maximum salary, and another above. Others make a direct adjustment, by deducting the whole or a portion of the Social Security benefit from an amount calculated by applying a benefit rate to the whole of a salary figure. However the figures may be calculated, the pension will fall into one of three categories, from the point of view of cost of living. These categories are:

(1) A pension not related to current earnings in any way, i.e., fixed dollar amounts such as $100 a month or $2 a month for each year of service (referred to as fixed dollar pension).

(2) A pension related to earnings, but calculated on a figure representing the average earnings during the service with the employer (referred to as a career average salary pension).

(3) A pension based on earnings immediately preceding retirement, either the actual earnings for the year before retirement or the average earnings of a few years, say three to five, before retirement (referred to as a final average salary pension).

Since pensions in the first category are not related to earnings, they cannot be held to include any measure of cost of living allowance. The pension might be adequate for low paid employees, but if it is, it will be inadequate for employees at the higher salary levels. This plan provides no direct relationship with the quality of services rendered to the employer. This type of benefit calculation for salaried employees, is practically never encountered by itself. When used, it is usually found in combination with a supplementary system based on a modification of one of the other two categories.

The second category is the type of plan which has been installed by many employers, both large and small. It will

continue to be installed for other employers for many years to come. Since the pension is based on the average salary, through the period of service with the employer, it is affected by the cost of living to the degree that such changes cause changes in salary levels. However, since all such changes in any year are averaged out with the changes in preceding years, the resulting average salary does not respond sharply to cost of living changes. For this reason, the cost of the plan, as determined by the percentage of payroll required as a contribution, is relatively stable. Consequently this method finds favor in the eyes of many employers.

Many employers are fully aware that only in periods of salary and wage stability, will the pension based on average salary provide an income to the retiring employee, sufficient to maintain him in reasonable comfort. Even under these conditions, the rate of benefit per unit of salary will need to be substantial. The rationale of the adoption of this type of pension may be stated quite briefly. The employer is aware that the formula will produce reasonable pensions only in periods of exceptionally stable prices. Nevertheless, as a regular commitment, he is prepared to bind himself to finance benefits only on such a scale. He recognizes that there may be a gap between the pension payable under the plan and the income needed to support the retiring employee and he reserves action in respect to that gap. If circumstances permit, he hopes to close it in a manner satisfactory to all parties, but, if circumstances do not permit such action, he has no legal compulsion to do so.

Consider the following case. An employer establishes a career average plan and pays into the fund both the normal cost, and any past service funding payments. Up to this point, the plan is a straightforward career average funded pension plan. Assume that, at the end of each year, the employer pays into the plan the lump sum cost of changing all pensions in respect to past service, from the career average to the salary of the past year. Then pensions of persons who retire would, as they retire, be calculated on the final salary before retirement. The plan would be designed as a career average plan and would be operated as a final salary plan. This is not a method which is recommended as being economical in costs or administration, but it illustrates the point. In any year, the employer is committed only to pensions or future service on a career average basis. Then at the end of any year, he makes his decision relative to putting his pensions for past service onto the most up-to-date salary basis. As far as is known, this method has only been employed in the intermediate stage of updating past service pensions from time to time.

The most common procedure is to bring the past service pensions up-to-date when the rising trend in salaries and wages forces the conclusion that a revision is necessary. In bringing the past service pension up-to-date, it is not necessary to adopt a salary base identical with the earnings of the preceding year. All kinds of variations have been employed, in addition to the one mentioned. An overall percentage addition might be appropriate in one case. Another employer might up-date the salary base to some point of time short of the present. It is usually desirable to base the adjustment on the salaries in some way so that equity could be maintained between one employee and another. The base adopted is determined after consideration of the scale of increase found desirable in the original pension.

The last of the three categories mentioned earlier contains fewer plans than the preceding one, but its num-

bers are increasing. Moreover these plans tend to be the larger ones. These are plans whose pensions are based on average earnings of a short period before retirement. The fact that the formula is related to average final salary makes it highly responsive to changes in the levels of remuneration. While the calculations of the normal contributions, etc., are based on an estimate of the average final salary, this, in turn, is based on the current salary. Thus, any upward movement in the latter is instantly transmitted to the estimate of the pension. Because of this continuous reaction to inflationary moves in the levels of remuneration, only the strongest employers financially are able or willing to face the recurrent cost increases. Consequently, though these plans are few in number, they include only elite names.

Profit sharing plans have also contributed greatly toward retirement benefits. The total amount deductible by an employer for contribution to a profit sharing plan, is 15 per cent of compensation paid or accrued to participants. However, in combination with a qualified pension plan, the percentage deductible in respect of total contributions to both plans, is raised to 25 per cent. Thus, if profits permit, the allocation on the current level of remuneration may be considerable. While these plans permit substantial contributions for current service, they suffer from a lack of capacity to provide benefits for service prior to the inception of the plan. For this reason, they are generally regarded as supplements toward providing greater retirement income than is possible through a regular pension plan alone.

Many retirement plans have grown out of profit sharing plans, by the device of rearranging the contribution formula to provide that the pension plan contribution is to be a first charge on any allocation by the employer. The balance of the allocation is contributed to the plan for distribution to employees' individual accounts. Such an arrangement is extremely valuable to an employee, since he not only receives a pension, but each year his profit sharing account is increased, as profits permit. Since profits are not infrequently increased by inflationary tendencies, the result is an overall benefit outline which is capable of producing the best of both systems for the employee.

Pensions: Hourly Paid Employees

The average remuneration for hourly paid employees increases gently with age, but to a much lesser degree than in the case of salaried employees. The increase is due to promotions to more remunerative jobs and to an irregular series of step-up increases, due to re-negotiation of wage contracts. The overall picture is that of the general level of wage earnings increasing as fast as, if not faster than, the increases in salary levels.

Pensions for hourly paid employees have passed through various stages. At one period, the "envelope" type of formula for pensions was in favor for hourly paid employees. Under this formula, an overall gross benefit was determined and the plan paid the difference between this gross amount and the Social Security benefit payable to the employee. As a result of successive increases in Social Security benefits, the amount paid from the plan became progressively less and less. This feature has obvious drawbacks and resulted in union re-negotiation on the occasion of each increase in Social Security. This plan has been superseded by the fixed dollar benefit plan now in general use, though examples of the envelope type of formula may still be found.

These fixed dollar plans provide a monthly pension in respect of each year of service, on a formula independent of the Social Security benefit. Since this pension is not related in any way to Social

Security, the retired employees receive the two independent payments, one from the plan, the other from Social Security.

The plan formula negotiated in the Steel Industry exhibits some interesting features. It has for a major benefit formula (1) 1 per cent of the average salary of the ten years preceding retirement, less Social Security (frozen at $80 per month), with (2) a minimum of $2.50 per month per year of service before January 1, 1960 and $2.60 per month for service after that date. There is a limit of thirty-five years which can be claimed at these rates. A further minimum of $100 a month, less Social Security, is provided and affords some protection to persons disabled under the age of 50. Either (1) or (2) will usually apply on retirement at 65 or later, depending on the salary history of the person concerned. In the event of a substantial rise in wage levels, the major formula (1) would apply in an increasing number of cases of retirement. The plan is thus an average final plan of an envelope type, with limited Social Security deductions and with fixed dollar minimums.

The situation in a joint employer-union plan financed by a negotiated payment of cents per hour of work will be considered briefly. Contributions are needed for three purposes. First is to cover expenses. Next is the normal contribution required to provide current service benefits. Finally, to the extent available, there is need for the interest and amortization payments required to meet the initial liabilities for pensions in respect of past service.

The financial procedure is essentially one of taking a portion of the contributions of all members, to provide the past service pensions payable to the older segment of the membership. As this accrued liability is reduced, more of the contribution of a member should be released for current benefits and it should be possible to increase these benefits. A drag on the size of the resulting increase occurs because by the time it becomes possible, the younger members have themselves acquired some limited past current service rights, which would have to be financed. This situation will occur at intervals, as the release in the contribution rate develops sufficient proportions to warrant action. The main point is that the financial organization of the plans is such as to give cause for hope that they should ultimately develop pensions which are higher than the figures at which they commence. This hope is, of course, predicated on an initially cautious actuarial estimate and a continuous progressive economy.

It is of interest to note a tendency to negotiate wage increases to come into force automatically upon increases in the Consumer Price Index. This has important effects on both the preservation of industrial peace and also upon the speed with which current pay rates keep up with the cost of living.

Pensioners

From time to time, employers have taken action to ease the financial distress of pensioners caught in an inflationary spiral of costs, with an income fixed in dollar amounts. Perhaps the simplest methods were merely to grant a straight percentage increase or a fixed dollar increment. This was found to create inequities and was rapidly replaced by a graded increment or percentage increase dependent upon the year of retirement. For this purpose, the figures shown in Table 1 have been used to produce an increase schedule of this type:

Retirement in:	*Increase in current pension required to maintain purchasing power of the pension*
1958	0%
1953	8%
1948	20%
1943	66%
1938	104%

As calculated, the increases look formidable but it must be remembered that the higher percentage increases apply only to the less numerous groups. Moreover, if this type of adjustment had been put into operation earlier, the relative increase would be referred to a later date than in the schedule. For instance, if pensions had been brought up to the 1948 level, by an earlier operation of this kind, the maximum percentage increase now applicable would be 20 per cent for all those who retired in 1948 or earlier years. It may be noted that union agreements frequently contain a clause increasing pensions, usually to a level slightly lower than current provision for active members.

Variable Pension Systems

There is no technical difficulty in determining the cost of pensions which increase with duration of payment. This type of pension may start at 100 for the first year and be payable at the rate of 101 for the second year, 102 for the third year and so on. The increase could be determined on a simple increment basis or on a compound basis, with a constant ratio. The actuarial calculations are exact but it should be recognized that the penalty paid for underestimating longevity, is increased. The extra years for which retired members live are being charged against the fund at increasing rates.

This type of benefit could be added to any existing plan though, as far as is known, it has not yet been adopted as described. A modified version is in operation and will be mentioned later.

The increment in pensions at the rate of 1 per cent per annum increases the cost of pensions by about 10 per cent. An increase of 2 per cent per annum would cost about 20 per cent and an increase of 3 per cent per annum would cost a little over 30 per cent.

The technique of the equity annuity fund follows out the suggestions made by W. C. Greenough and is carried into practice by the College Retirement Equities Fund as well as by a number of pension plans for individual employers. Briefly, the substance of the idea is that the pension should be divided into two parts, one-half to be a fixed dollar amount and the other to be payable in special units. The original dollars representing these special units, are invested in common stocks. The dollar value of the unit is determined at regular intervals by comparing the number of units on hand with the value of the fund, including investments at market value and all accumulated dividends and cash. The result is an annuity which fluctuates up and down in value. The following table shows the value of a $10 annuity unit in the C.R.E.F. Fund.[1]

Table 3 merits close examination. It shows that, in every case, the original $10 unit is being paid out in 1960-61 at a rate in excess of the original value and in some cases, at more than double the original rate. On the other hand, $10 units commencing 1956 and 1957 were paid out at less than the original value for the first year or two. As a matter of interest in respect of a $10 unit receivable in each of the eight years, 1952 to 1960, an aggregate of $140.59 was paid or an average of $15.62 per year. Between 1957 and 1958, the C.P.I. went up and the annuity unit went down. A similar but less severe movement, is noticeable in 1953 to 1954. Even when the movement of both the C.P.I. and the annuity value is upwards, the amounts of the increase do not correspond.

The deposits required to produce these annuities are translated from dollars into accumulation units, which are invested and valued in a manner similar to that described earlier. With both accumulation

[1] A New Approach to Retirement Income—T.I.A.A./C.R.E.F.

TABLE 3

COMPARING THE VALUE OF AN ANNUITY UNIT OF $10 IN THE COLLEGE RETIREMENT EQUITY FUND WITH THE CONSUMER PRICE INDEX

Annuity Year May through April	*Consumer Price Index May*	*Value of Annuity Unit of $10 in the C.R.E.F. Year of Commencement of Payment*							
		1952	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*
		$	*$*	*$*	*$*	*$*	*$*	*$*	*$*
1952–53	113.0	10.00							
1953–54	114.0	9.46	10.00						
1954–55	115.0	10.74	11.35	10.00					
1955–56	114.2	14.11	14.92	13.20	10.00				
1956–57	115.4	18.51	19.57	17.20	13.13	10.00			
1957–58	119.6	16.88	17.85	15.70	12.00	9.12	10.00		
1958–59	123.6	16.71	17.67	15.60	11.80	9.03	9.88	10.00	
1959–60	124.0	22.03	23.29	20.51	15.61	11.90	13.05	13.18	10.00
1960–61	126.2	22.15	23.41	20.62	15.70	11.97	13.12	13.26	10.05

units and annuity units to be recorded, the administration is complicated.

The proponents of this technique do not claim that the method is guaranteed to produce an increase in payments corresponding to the increase in the cost of living. In fact, they rightly take considerable trouble to point out that, while the general correspondence is good, particular cases in given years or months do show stock prices and cost of living moving in opposite directions. Their great claim is that money invested and distributed in this manner has produced a greater payment than the original flat dollar amount. Any such increase over the original figure is extremely helpful to annuitants who have to purchase the necessities of life with a limited income. There is no guarantee of performance but there is an aspect which appeals to the incorrigibly hopeful element in the human mind, in the link with the "perpetually rising" markets.

Methods of Meeting the Problem: Period of Active Service

The problem has now been surveyed and the tools available have been examined. It may be remarked that a pension plan is no different from any other financial plan, in that it is subject to the old adage that "you cannot get more from a pint pot than you put into it." It has one advantage over the adage, in that at regular intervals the pension pot level is raised by the addition of further liquid in the form of interest, dividends and capital appreciation. Nevertheless, it is only too easy to organize a drain upon its reserves, which will leave the owner with a dry "stein" in all too short a time.

The primary consideration is to achieve, during the period of the employee's service, the effect of accruing for him a pension related to his final year's salary. No matter how equitable the formula or how much it brings past data into consideration, no employee will be convinced that he can live on the pension which it produces if he feels that the amount is hopelessly inadequate. Shortage of dollars cannot be made good by an abundance of mathematics or logic. The key question for any employer is how to use the available dollars to the best effect.

The employer who selects an average final salary plan does, in effect, bind himself to make the contributions needed. It is true that his plan may legally enable him to cease payments on notice. However, if he does so avail himself, he cannot escape the devastating effects which such action would produce on the morale

of his employees. Once he has started his plan, he is morally committed to the appropriate payments unless his business is *in extremis*.

The employer who has initiated a career average plan, on the other hand, should be fully aware that it is unlikely that the plan will ever produce pensions which will be considered desirable in relation to the cost of living. He may, with justification, say that it is all he can do in the circumstances and leave it at that, on the grounds that part of a loaf is better than no bread. On the other hand, he can say to himself that he is meeting perhaps 70 per cent of the desirable pension liabilities and he will meet the balance, if and when it is convenient to him to do so. Probably the simplest method open to him is to assume, from time to time, additional pension liabilities, under a continuous program of up-dating past service to or near current salary. This is reasonable and equitable as between employees and is flexible as to the time of the assumption of the additional liabilities. It does not impose any great financial discipline on the employer but it incurs the danger of developing the habit of procrastination, which is the thief not only of time, but of good intentions.

A fixed dollar plan will genuinely meet the problem for a limited period only, and the length of that period depends upon the steepness of the rise in the cost of living. Thereafter, it will need improvement. Employers who administer such plans, whether union-negotiated or not, should not fail to recognize this fact. Many of the fixed dollar plans, however, have a limitation on the number of years of service permitted to be credited for pension accrual. In such cases, it may be possible to raise the total pension, by raising the service limit rather than by increasing the benefit scale. Increasing the service limit would increase the pension payable to employees with service in excess of the previous maximum and to employees who can complete, in the future, a period of service greater than the old maximum. This change would not affect the pensions of those employees who entered service at such an age that the maximum number of years of service cannot be obtained in any case.

Methods of Meeting the Problem: Post Retirement

It is intended here to discuss methods of adjusting pensions, after they have been granted upon the retirement of the employee. Probably the most common measure is to grant to retiring employees a supplemental pension on some scale and to pay it directly out of the profits of the company. There are arguments in favor of and against this procedure. It may be said in favor, that annual charges are more easily dealt with than lump sums. Assuming that the rise in the cost of living is the reason for granting such additional payments, then it is appropriate that the payments themselves should be made in such depreciated dollars, year by year. This argument cannot be gainsayed, but it is insidiously easy to start a procedure on small payments only to find that it becomes financially burdensome as payments mount. The soundest procedure for applying this method is, first, to review the procedure for granting such pensions; second, to obtain a proper actuarial assessment of the average annual cost and the equivalent lump sum, finally, to be sure that the cost of any proposed additional pension is supportable in the future, as well as presently.

In any case, in announcing the additional amount to retired pensioners, power to cancel should be reserved and possibility of further increase disclaimed. In both this method and the one in the preceding paragraph, it is assumed that a formula would be adopted for the addition to the final retirement pension. A

procedure which would permit higher pensions for favored employees, defeats the equity of the plan. In fact, the Internal Revenue Service spends a great deal of its energies in prescribing and enforcing rules against such discrimination. A supplementary plan or an amendment to an existing one, would be scrutinized like other plans.

It was shown earlier that, for an increase in cost of about 10 per cent, it would be possible to provide a pension increasing by 1 per cent for each year of payment. This is a benefit which would do much to meet the increased cost of living for pensioners. On the average, the C.O.L. increase was shown to be 2½ per cent per annum and this indicates an extra cost of about 25 per cent. The benefit increase could be drafted in a form which provided an increase of 2½ per cent per annum, or such lower sum as was indicated by the selected C.O.L. index. For such a benefit, a Retirement Index is determined at the time of retirement and an addition to the base pension is paid in an amount determined by a formula incorporated in the plan. In a specific case, this formula stated that the base pension will be increased by the excess of the current index over 105 per cent of the Retirement Index and conversely will be decreased by the amount by which the current index is less than 90 per cent of the Retirement Index. In this case, a corridor is created of 5 per cent upwards and 10 per cent downwards, so that small variations do not take immediate effect. The pension increase is always behind the cost of living increase.

Perhaps the most attractively presented method is use is the variable annuity. The mechanics of the method were described earlier. They are not simple. It is not claimed for the plan that it produces pensions which vary directly with the cost of living. All that is said is that a combined pension, half flat dollar amount and half variable annuity, shows in general a rising trend similar to that of the cost of living over the same period. There is a danger, however, that an enthusiastic presentation may not fully emphasize its potential problems. The method is garnished with attractive estimates of improved benefits, without extra cost to the employer. There is no doubt that it is a useful, attractive and important device, but the real attraction (conveyed in the estimates of benefits substantially in excess of anything produced by the regular techniques), is predicated entirely upon a continuous upward trend in the stock market. Many persons who give lip service to the recognition of possible movements in the reverse direction, do not really believe in the possibility of any substantial, determined and continuous decline in the stock markets. Consequently, they are prepared to subject their pensions to the market, in this belief in a rising trend. They may well be correct, but each employer who does adopt this method, should face this issue squarely and make his own decision on the facts as he sees them. He should also consider the situation which would develop if the stock market declined and the cost of living rose, noting that movements in these opposite directions have occurred in the past. A prolonged experience of such conditions might lead to a demand for a minimum pension, not reducible as the result of further cost of living declines. The additional cost of such minimum would fall upon the employer at a time when he would be doubtful of his capacity to support it. A few employers have incorporated guarantees of minimum pensions in their plans, and more may decide to do so as they become aware of the problems inherent in their plan.

The difference between the variable annuity approach and the direct cost of living adjustment method, should be understood. The direct adjustment

method, as discussed earlier, provides a benefit directly increasing or decreasing with the cost of living. It may or may not include a corridor, in which movements of the cost of living index do not immediately change the benefit. The employer has made a firm commitment to vary pensions in accordance with these established rules. As a consequence, he has retained his rights to appropriate the full product of his investment policies, in the shape of interest, dividends and capital appreciation, to help him meet his commitments.

The variable annuity, on the other hand, does not link pension adjustment to the cost of living indexes at all, nor does the employer commit himself to do other than make contributions to the plan. Contributions are sometimes defined directly as a percentage, to be provided in a regular salary and service formula. Once the contributions are settled in this manner, a bargain has been struck between the employer and the employee. The bargain is simply that on a specified portion of an accumulated fund, the employer will relinquish claim to the full value of the investment performance of that portion of the fund. Arrangements are made for it to be distributed to the employees in exchange for a release of their guarantee of a fixed pension and for consideration of the need for adjustment of pensions in relation to the cost of living.

From the point of view of the employer, anxious to convey to his employees a fair understanding of the benefits provided by the company plan, the direct adjustment of the pension is the more simple method to explain. It does, however, involve the more fixed commitment. The variable annuity has less commitment but greater educational obligations. This is recognized by organizations installing variable annuity plans. They go to great lengths to ensure as good a grasp as is possible of the operation of the plan. The danger is that of too ready acceptance of the plan, with the mind fixed on the concept of a permanently rising trend in the stock market. This may be followed by a possible disappointment with the performance, if units bought at high prices exert a restraining influence on the total ultimate pension. The absence of a guarantee of benefit will, of course, permit the pension to diminish greatly if the market behaves in that way.

The educational effort is directed very properly at the avoidance of such disappointment or, what is perhaps more to the point, the prevention of it becoming so vocal as to require remedial action.

Conclusion

The aspects of adjusting pensions to correlate with the movement of the cost of living have been examined. It will be appreciated that cost of living additions to pensions cost money, just as the basic pensions do. The choice between the methods examined seems to lie initially on the question of commitment. Would the additions be spelled out in the plan or should the employer leave the question until it becomes urgent? In many cases, the matter is not urgent and the employer decides to wait on events. That this decision is sound or unsound, may not be at all clear at the time it is made. Moreover, the accumulation of supplementary funds out of tax deductible contributions and tax free interest, is contingent upon the legal assumption of definite liabilities. Let it be repeated, however, that the costs of a plan are determined by economic and actuarial events and are not, contrary to what may be thought, subject to control by the administrators or technical advisors. The only item which genuinely reduces employer contributions is income from interest and dividends. Consequently, delay in paying money into a pension plan can only result in additional charges by way of contributions. It follows that pen-

sions paid each year out of profits involve the maximum charge on profits, since there is no interest income to help at any time to diminish the annual charge. By the same argument, providing cost of living additions on a pay-as-you-go basis is the most expensive way of dealing with the matter; the favorable aspect being that they are usually determined on a minimal basis and may be diminished or cut off entirely, at will.

The question of timing thus enters into the situation because, the earlier the payment, the less the aggregate cost. But, the earlier payment, to be tax deductible, requires the provision of improved benefits under the plan and the consequential assumption of additional liabilities by the employer. An alternative path may present itself by way of investment in common stocks. It may be assumed that the portion of the fund invested in common stocks will increase in value with the depreciation in purchasing capacity of the dollar, as ownership of physical assets would tend to do. The employer must then decide whether he should offer overall guarantees of benefits and hope to cover at least part of his additional costs through capital appreciation. The alternative is to offer a "deal" by which he turns over the capital appreciation, (or depreciation) of a specified common stock fund to his employees, in exchange for what amounts to a release from guarantees of a scale of benefits and from a cost of living adjustment in pensions.

The situation is not made easier by the fact that pensions are a real business obligation and must be provided by those employers who wish to hire any employees. Should the employer now try to outdistance his competitors in the labor market by offering cost of living additions to pensions as a fringe benefit? Or, should he wait on events and hope that this benefit may never have to be provided? Employers have to move with the times, and a pension plan which gets far out of gear with current remuneration levels, is not doing the job for which it was set up. It may even tend to become a grievance with existing employees and a potential deterrent in the hiring of new ones. There is no universal answer to the problem, since the circumstances and inclination of each employer differ.

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NOTES FROM A GRADUATE COURSE IN INSURANCE ADMINISTRATION

JOHN T. EVEN

Alexander and Company

About seven years ago, several senior executives of our corporate clients mentioned that they were planning promotions for men in their companies. As senior executives, they were interested in providing their successors with special training in insurance administration.

We were requested to recommend schools offering courses in insurance management but were unable to find any in the Chicago area which would meet the needs of those with corporate insurance administration responsibilities.

Available courses either emphasized the underwriting of insurable risks or insurance selling. Financial losses to which a corporation was exposed in everyday business operations, were ignored. Available course content related to a study of well defined and limited subjects such as fire insurance contracts, liability contracts, fidelity bonds, inland marine policies, etc. No effort had been made to relate technically these subjects to the management of a business. Consequently, we prepared a course in corporate insurance administration.

When consideration was given to the nature and purpose of this course and the caliber of men who would be in attendance, i.e., senior executive level, the manner of presenting the subject became important. Should the course include exposures to all losses of the corporation, as a result of the happening of fortuitous events? Should it be presented on a compartmentalized basis as suggested by some management associations and as followed by the insurance industry; namely, fire insurance, workmen's compensation, public liability insurance, etc.? Should it be a lecture series? Should the class be given assignments? What texts, if any, should be used? [1]

It was concluded that Corporate Insurance Administration should be taught on the theory that insurance is a tool of management similar to other tools, and is related to all the divisions of management. Insurance, as an example, should be related to and administered with: financial, manufacturing, procurement, real estate, research, traffic, costing, engineering, sales, distribution, legal, and personnel administration.

The executive responsible for the effective administration of corporate insurance

[1] The first book listed below is required reading for this course. The others are recommended.

COPELAND, MELVIN T., and TOWL, ANDREW R. *The Board of Directors and Business Management*, Division of Research—Graduate School of Business Administration, Boston, Harvard University, 1947.

COPELAND, MELVIN T. *The Executive at Work*, Cambridge, Mass.: Harvard University Press, 1951.

BARNARD, CHESTER I. *The Functions of the Executive*, Cambridge, Mass.: Harvard University Press, 1951.

MACE, MYLES L. *The Growth and Development of Executives*, Division of Research—Graduate School of Business Administration, Boston: Harvard University, 1950.

GLOVER, JOHN D., and HOWER, RALPH M. *The Administrator*, Chicago: Richard D. Irwin, Inc., 1951.

should have skills concerned with "leadership and with fellowship in about equal portions." The effective administration of corporate insurance requires cooperation between all divisions of management. We were interested in adding to the course, subject material that would provide each executive with the opportunity to develop, as far as an individual can, an attitude, point of view, outlook, or frame of mind which would help him to become a more understanding, more useful, and more responsible member of the corporate entity. (This subject is more fully discussed by Glover and Hower, *op. cit.*, pp. 1-10).

Men cannot become administrators through reading about administration. They must receive their training by being presented repeatedly with concrete situations, so a seminar-case method was adopted for this course.

A corporation's long range plans for absorbing losses and its philosophy for insuring (reinsuring) should come from the directors, since they are responsible for all policies of the corporation. This involves a determination of the amount of first dollar of any loss a corporation may safely absorb.

Directors sometimes lack special training in evaluating the amount of loss a corporation can suffer without impairing its earnings or financial standing. The corporate insurance administrator should be capable of preparing a philosophy for insuring (reinsuring) the corporation's exposure to loss and/or earnings and have such philosophy approved by the board and returned to him in the form of a directive.

To use insurance effectively as a tool of management requires that the technical aspects of the subject be pre-digested for consumption by other executives not trained or skilled in its administration. An example of such pre-digestion of lease contract problems prepared for use by the legal department, appears below.

Lease contracts provide liability similar to other contracts and usually involve large dollar amounts. Neither party to a lease intends to assume financial losses created by contractual obligations, without having such exposures to loss assumed by a corporate insurer for a premium. If a lease language which creates the liability contains no ambiguity, the problem of insuring such exposure involves no difficulty, and creates a situation that is easy to handle both in the preparation of insurance contracts and the determination of premiums which should be charged for such exposure.

Most insurance policies are interest policies. One cannot create an insurable interest just by calling it such. If no interest exists, there is nothing to insure. The insuring of lease and leasehold exposures to loss, both for lessor and lessee, must be reduced to an insurance contract.

In the event various clauses in the lease, providing for contractual liability, are found to be inconsistent with each other, problems are created. The adding of typewritten clauses to printed leases, or pasting together clauses from various leases, creates situations which may be ambiguous, inconsistent and extremely difficult to underwrite. Underwriters, under such conditions, rate the risk based on the worse condition, with the result that ambiguities created in the preparation of the document inure to the detriment of our company by way of higher costs.

The following are some conditions that should be considered in the preparation of leases:

1. CONDITIONS TO BE REVIEWED WHEN WE BUY REAL PROPERTY

   A. Has previous owner obligated himself to provide heat, refrigeration, steam, electric power, without providing saving clauses such as machinery breakdown, strikes, riots, and other causes beyond his control?

   B. Do existing leases impose obligation on lessor for the replacement of improve-

ments or betterments, or the rebuilding of the building, or other conditions which would detract from the value of the demised premises from the new owner interest?

2. WHEN WE REPRESENT THE LESSEE OR LESSOR
   - A. If improvements or betterments are to be installed, who has the ownership of such improvements during the lease?
   - B. If they are destroyed by any peril and the lease is not cancelled, who has the obligation to replace improvements or betterments?
   - C. If lessee is to maintain boiler, does this mean that he has
     1. Only to provide fuel?
     2. To make all repairs and replacements needed for the boiler?
     3. The obligation to insure the boiler?
     4. Release of liability if damage to contents and building occurs?
   - D. Has lessee obligated himself to maintain air-conditioning and refrigeration? Does this mean that he is to
     1. Replace any equipment if damaged by any peril?
     2. Provide current for the operating of the unit?
     3. Provide supervision for the operation of the unit?
   - E. If lessee has to maintain sprinkler equipment, does this mean that he is to
     1. Make any necessary repairs or replacements?
     2. Keep system in service?
     3. Be responsible for sprinkler equipment if it is not functioning, and as a result building is completely destroyed by fire?
     4. Have limited liability if system fails to function?
   - F. If lessee is to maintain elevator, must he
     1. Make repairs?
     2. Provide inspections?
     3. Replace if elevator is damaged by collision or other perils?

3. FIRE CLAUSES
   - A. Is the time needed to replace by the lessor (30, 60 or 90 days) adequate under modern construction practice?
   - B. Does the lease provide for the abatement of the rent during the period of untenantability?
   - C. If lessee agrees to return building at termination of lease:
     1. What perils are to be excluded—fire, fire and extended coverage, boiler, elevator, all-risk perils?
     2. Is there a subrogation release in lease to protect tenant against lessor's insurers?

4. IF WE AGREE TO KEEP BUILDING IN REPAIR, DOES THIS MEAN:
   - A. Against all perils?
   - B. Against perils other than what lessor insures?
   - C. That boiler, air-conditioning or other mechanical devices are included?

5. IF WE AGREE TO INSURE BUILDING:
   - A. For what amount?
   - B. For replacement or actual value?
   - C. For what perils?
   - D. Should policy contain co-insurance clause?
   - E. Should lessor-lessee keep values up-to-date?
   - F. Have we agreed to unrealistic specific amounts?

6. IF LESSEE IS TO PAY A SUBSTANTIAL AMOUNT OF RENT IN ADVANCE, WHAT PROVISIONS ARE MADE FOR RETURN OF RENTAL IF BUILDING IS DESTROYED?

7. HAVE WE OBLIGATED TENANT TO DO THINGS WHICH ARE DIFFICULT TO INTERPRET?
   - A. Not to commit waste?
   - B. To maintain interior of building?
   - C. To maintain exterior of building?
   - D. Have we used "repair" when we actually mean "replace" or "restore"?

8. IN FIRE CLAUSES HAVE WE USED AMBIGUOUS TERMS SUCH AS:
   - A. Other casualty?
   - B. Acts of God?
   - C. Unavoidable accident?
   - D. Catastrophe Loss?
   - E. Things beyond tenant's control?

9. IF WE PROVIDE FOR HOLD HARMLESS AGREEMENTS
   - A. Are the limits realistic for bodily injury and property damage?
   - B. Have we specified specific dollar limits for single accident catastrophe limits and property damage, which may be inadequate in the future as a result of inflation?

A similar review has been prepared for the traffic manager on "When Does Title Pass?" and "When Are Goods in Transit?" All executives of the corporation, wherever involved, should receive assistance of this type.

A trained person can determine the cost of raw material, shop labor, overhead, research, management, advertising, warehousing and other related costs of a product. These are the factors that are considered in every normal costing program. The unknown costs that must be added to a product to take care of fortuitous type losses, present problems which become very complex.

For example, how much should be added to the cost of a unit of product for the claim which may be made against a corporation as a result of an accident involving the negligence of a salesman in the operation of his company-owned car; or for the interruption of a business as a result of fire in the plant; or for loss of earnings caused by a labor dispute; or for flood damage to plant property; or for product recall; or for warranty liabilities; or for patent infringement claims? There are many costs of this character that cannot be added to the product without using some leveling medium.

Each class with which we have worked has attempted to develop a medium that can be used for leveling these unknown costs and adding them to the product. The Internal Revenue Code must be considered in this discussion, since it restricts the manner in which reserves may be established.

After diligently searching for better solutions, the students invariably return to the use of professional insurance, when obtainable, because by the use of a premium, the peaks and valleys of the operating costs of a corporation are reduced to a fixed amount by the premium.

A corporation, in doing business, assumes (or insures) all loss to which it is exposed. The decision to buy or not to buy professional insurance does not change its exposure to loss. When it buys corporate insurance for certain risks, it, in effect, is reinsuring part of the exposure to loss that it already has assumed. (It was for this reason that we gave some thought to the use of the title "Corporate Reinsurance Administration" for this course.)

If the exposure to loss is insured, the premium becomes a determined part of the cost of the product and of the expense of doing business. If the exposure is not

insured, the corporation must suffer the loss, large or small, and in many cases is not charging the ultimate purchaser of the product or services for the added cost, nor was it permitted to reserve for the unknown loss before taxes. In effect, what the corporation is doing, is self-insuring the exposure but not including a cost for such self-insurance. Ultimately it would be selling its product or services below cost.

It is only by the total and complete use of professional insurance that the corporation attains an ideal costing status.

Insurance can also be a tool of the procurement officer. Suppose the corporation is interested in buying non-ferrous pump body castings. A foundry, situated in the same city as the prospective purchaser, has bid $.65 per pound for the job. A foundry in another city, located 400 miles from the plant, has bid $.55 a pound. Patterns which will be shipped to the foundry for the work, will have a replacement value of $16,000. Only one set of patterns is available. The pumps, for which castings are being procured, represent 62 per cent of the corporation's total annual sales. Which foundry should be awarded the work?

From purely a unit cost point of view, the foundry submitting the lowest cost should be awarded the job and usually without the insurance administrator's influence, this is what would happen. The insurance adminstrator, working with the procurement officer, would consider many problems before awarding the contract. He would, in addition to the price, consider among other factors, the possible loss of patterns in the foundry and in transit; the loss of earnings the corporation may suffer if this source of supply is interrupted by fortuitous events or work stoppages as a result of labor disputes; the loss of castings in transit; the management of the foundries; the cost of insuring warehouse stocks of finished castings; the cost of making a duplicate set of patterns as a hedge against loss of earnings; and the financial standing of the two companies and their ability to pay claims for their negligent damage of patterns and the resultant loss of use.

Since many of these exposures to loss may be considered for possible reinsurance by professional insurers, the type of construction of the two foundries will be considered, the insurance rates that apply will be studied, cargo rates will be analyzed and costs to reflect these conditions will be added to the base per pound cost, to determine the gross cost. In the final analysis, the foundry submitting the higher per pound cost may produce the lower gross cost.

Such co-operation and liaison between the procurement officer and the insurance administrator would appear to be extremely important.

The administration of insurance is also related to the personnel department. It appears to be the trend to have the employee insurance benefit programs—such as group life, hospital and surgical programs—administered by the personnel department. Nevertheless, the executive administering the insurance program continues to have an interest in these fields because they relate to workmen's compensation and other similar employee benefits, and are a part of the overall "social" costs which must be absorbed by a business.

The costs of employee benefit programs are accepted as part of labor payroll costs. Compensation and medical costs are accident costs. Damage to equipment is equally apparent. In evaluating the cost of accidents or claims, all too frequently only the direct, actual, out-of-pocket costs are considered. The administrative clerk in the department reports on the number of dollars of claims. A record is kept of the total medical costs paid under hospital schedule. The claims on the group

life program are scheduled, added, and charged to the policy.

When inquiries are made concerning the indirect hidden costs assumed by the corporation in this area, a general attitude of frustration prevails. The personnel man says: "We cannot stop people from dying or from becoming ill." We are told the corporation has a good safety program. The total losses in this area have been evaluated and everything possible is being done to reduce accidents. The discussion usually stops at this point.

Do we actually know the indirect costs involved? Certainly the actual dollars that have been paid for workmen's compensation benefits, unemployment benefits, occupational disease benefits, hospital and surgical benefits, and even group life benefits, do not represent the total overall loss suffered by the corporation.[2]

Doesn't the product which is scrapped, as a result of poor vision on the part of the machinist, represent part of these costs? Doesn't damage to plant property, caused as a result of deficient vision of a crane operator, represent costs that must be recognized? Doesn't the premature death of an executive, which might have been prevented by periodic medical examinations, become a real loss to the corporation? A premature death, too, may cause a possible increased cost in group life benefits program.

The insurance administrator no longer can be satisfied that by giving long lists of dollar amounts expended by the corporation in this area, he is performing the duties of a corporate insurance administrator. He should be charged not only with the day by day routine handling of claims, but with long range industrial health, safety programs and loss research, so that the resultant losses from the normal everyday operation of the business can be accurately and realistically evaluated and controlled. To accomplish this objective he must work with all divisions of management.

To outline how problems are approached during our seminar discussions, we will use the expense the corporation may incur as a result of loss of its records, as an example.

An inqury is made about the survival of each student's company, if all necessary files and records were lost in a major disaster. How would such an event affect the corporation's relationship to the public, to its stockholders, to its employees and to its customers? Would the corporation be able to continue in business?

[2] The existence of other costs usually is not evident. Detailed and careful studies which have been made, indicate that there is a lack of full realization of the magnitude of these indirect costs. The following are some of the facts that must be taken into consideration in evaluating the total costs involved in an industrial accident:

A. Disability benefits.

B. Medical expense.

C. Loss of time of injured employee (day of injury).

D. Loss of time of employees who stop work to aid injured employee:
   1. Out of sympathy or curiosity.
   2. Or for other incidental reasons.

E. The time of executives, foremen, and staff personnel:
   1. Assisting injured employee.
   2. Investigating cause of accident.
   3. Arranging for continuance of injured employee's work.
   4. Selecting and training new employee.
   5. Preparing accident report.
   6. Attending hearings before industrial commission or in court.

F. Lost production due to upset, shock, or diverted interest of workers.

G. Lost production due to stoppage of machine or process in charge of injured persons.

H. Damage to machine, equipment or material.

I. Spoiled product or material due to emotional upset of fellow workers.

J. Lessened effectiveness of injured employee for a period after his return to work.

K. Loss of business or good will through failure to fill orders on time, lost bonuses, payment of forfeits for nondelivery, etc.

L. Legal expense, court fees, expense of preparation of case, settlements, judgments, etc., in cases contested at law.

What records are absolutely important and what records are not? We have been using as a text on this subject, an article which appeared in *Harvard Business Review*, July-August, issue (1956) by Robert A. Shiff, entitled "Protect Your Records Against Disaster." This article contains many suggestions for the protection of records. These recommendations are used as a pattern for action for the members of the class. Suggestions for studying the difference between vital and nonvital records in treasury, sales, engineering, manufacturing, and administrative operations, are outlined. Methods of protection for records, including microfilming, are analyzed, along with costs and other factors.

After the exposure to loss has been studied, the value of the files and records is considered. What is the extent of the direct loss the corporation may suffer as a result of their destruction? This involves the cost of replacing records, either by copying from existing records, "blowing up" microfilm into workable records, doing the initial research of preparing reports, and any other necessary costs that must be incurred in order to develop a workable set of records and files. In order to develop the value of files and records, cost studies must be made. It has been recommended that division managers be assigned to this task because they should be more familiar with the kind of records contained in their divisions, the cost of duplicating the records, and the need for protection of their records. The following suggested work sheet has been prepared to aid in the determination of these values.

PAPER RECORD WORK SHEET

We are listing below different kinds of paper records which our Company uses. We are attempting to determine the cost of replacing these records in the event of their loss. Each department is urged to study the type of records used by it, whether they are vital or not, and to determine what it would cost to replace these records. Such evaluation should include all costs such as, but not limited to, research, travel, clerical, executive, etc. Vital records should be marked with an asterisk. ("A record is vital when it contains information that is required to protect the interests of the public, stockholders, and the employees.")

KINDS OF RECORD	COST OF REPLACING
1. The value of labor expended in incompleted mechanical drawings.	$_____
2. The value of labor expended in incompleted art work.	$_____
3. The value of labor expended in preparing architectural drawings.	$_____
4. The cost of replacing tracings, Van Dykes, mechanical, architectectural or art drawings.	$_____
5. Cost of replacing mircofilm and the cost of enlarging microfilm into workable records.	$_____
6. Personnel records. a) job classifications b) salary classifications c) employee insurance benefits	$_____
7. Cost records.	$_____
8. Work in process records.	$_____
9. Inventory records.	$_____
10. Preliminary engineering data and parts cost which have been developed for bidding on various jobs.	$_____

11.	Appraisal records.	$_____
12.	Accounting records. (Account renewals—current and deferred.)	$_____
13.	The cost of research, investigating and survey reports.	$_____
14.	I.B.M. cards.	$_____
15.	Income tax deduction records.	$_____
16.	Social security deduction records.	$_____
17.	Mailing lists.	$_____
18.	Products specifications.	$_____
19.	Manufacturing specifications.	$_____
20.	Electronic memory devices.	$_____
21.	Automation tapes.	$_____
22.	Stockholder lists.	$_____
23.	Corporate records.	$_____
24.	Cost of replacing employee contracts (Dept. Mgr. and Salesmen).	$_____
25.	Employee security or profit sharing records.	$_____
26.		$_____
27.		$_____
	TOTAL COST OF REPLACING RECORDS	$_____

Once the cost of replacing its files and records has been determined, the method of handling the loss is considered. Should the corporation reinsure this exposure through the use of a professional insurer? This would involve a study of the possible loss the corporation may have and the part, whether partial or total, which may be reinsured by a corporate insurer for a premium.

One of the processes involved in determining the extent to which the exposure may be insured, involves a study of the literature published by insurance companies. Companies may have some rather glowing statements about the extent of insurance provided by their policies which, in many cases, is found to be technically deceptive.

Insurance Companies that have issued special sales bulletins, underwriting bulletins, form letters, loss bulletins, and circulars, describe the valuable papers and records policy as follows. These circulars were issued by a company using the National Bureau of Casualty Underwriters form.

> "It is, therefore, virtually a business necessity to have a form of insurance that will provide the money required to pay for the necessary expense of records restoration. That is exactly the purpose which _____ VALUABLE PAPERS INSURANCE serves."
>
> "_____ Valuable Papers Insurance pays—up to the amount of coverage you carry—*for the actual cost of restoring damaged or lost business records.*
>
> "A distinctive feature of VALUABLE PAPERS INSURANCE is that it pays the actual cash value at time of loss or the cost of repairing or replacing lost, damaged or destroyed property, with other of like quality or value, subject to the limits in the amount of insurance carried under the blanket section and on irreplaceable papers the specified amount for which they are insured."
>
> "Our Destruction of Records Policy indemnifies against all risks of direct physical loss of or damage to your Records and Valuable Papers (excluding money and

securities) from any cause except wear, tear, gradual deterioration, vermin, war, or inherent vice."

"POLICY PAYS: The Valuable Papers Policy will pay the following:

a. The *value specified* in the policy for specified articles insured under the policy on a valued basis.
b. The cost of *restoring or replacing* other property insured on a blanket basis which property *can be* replaced.

"DEFINITION: 'Valuable papers and records' means written, printed or otherwise inscribed documents and records, including books, maps, films, drawings, abstracts, deeds, mortgages and manuscripts. This would include almost any business record, social security records, specifications, mailing lists, inventory records, index systems, payroll records, time study records, blueprints, microfilm, legal briefs, medical case histories, designs, contracts, photographs, and other papers and records used in any business, professional or personal activity."

"Policy will pay: The cost to reconstruct the records. This includes all reasonable expenses including overtime incurred. The major cost would be the expense of gathering information together to transcribe onto new records."

Are these statements a good description of the policy?

The next process involves a study of the policy itself. Is the contract of insurance adequate to indemnify the corporation for the loss it may suffer as a result of the destruction of its records and files. For the premium charged, is the protection provided by the policy a good investment for the corporation. A critical analysis of this policy, prepared by a class group, is summarized below.

The insuring agreement of the Valuable Papers Policy is divided into three parts. The first insuring agreement provides that the company *will pay for direct physical loss of or damage to valuable papers and records in the premises.* This is an unusual property insuring agreement, in that no perils are indicated. The insurer, by the terms of the policy, agrees to pay for loss of valuable papers and records *or* for damage to valuable papers and records. The word "loss" implies that property is no longer in existence, and the word "damage" implies that property still exists, although in a damaged state or form.

The insuring clause has been prepared in the disjunctive and insures either "loss" or "damage." Does it insure loss of valuable papers and records that are no longer in existence, and damage to valuable papers and records that still exist, but in a damaged state or form? On occasion, the disjunctive "or" has been read as a conjunctive "and," but after considering the entire insuring agreement, we incline to the view that the clause must be considered in the disjunctive. It could insure either damage or loss to valuable papers and records, but it cannot insure both.

The word "loss" is modified by two words, "direct" and "physical." What is their effect on the meaning of "loss"? The word "direct," as so used in an insurance policy, means immediate or proximate, as distinguished from remote. If any perils had been specified in the insuring clause, the word "direct" would have a significant, legal meaning. "Direct," as used here, is redundant. If valuable papers and records have been lost or destroyed and are no longer in existence, the manner in which they came to that state is of no significance. For the same reasons, we likewise believe that the word "physical" is redundant.

The second insuring agreement provides that any insurance which is afforded by the policy, applies to valuable papers and records while they are removed from the premises because of imminent danger of loss or damage (should this read "either loss or damage") and while being conveyed outside of the premises and while temporarily within other premises, except for storage. In this latter event, the company's limit of liability shall not exceed 10 per cent of the combined limits of insurance stated in the Declarations, nor more than $5,000, whichever is less.

The third insuring agreement provides that the policy applies only to *loss of or damage to* valuable papers and records which occurs during the policy period. It is to be observed here again that *loss of or damage to* is related in the disjunctive.

The policy contains five exclusions and provides no protection

a) to *loss* due to wear and tear, gradual deterioration, vermin or inherent vice;
b) to *loss* due to war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to any of the foregoing;
c) to *loss* due to any dishonest, fraudulent or criminal act by any insured, a partner therein, or an officer, director or trustee thereof, whether acting alone or in collusion with others;
d) to *loss* of property not specifically declared and described in Section A of Item 3 of the Declarations if such property cannot be replaced with other of like kind and quality; and
e) to *loss* of property as samples or for sale or for delivery after sale.

It is to be observed that the insuring clause provides insurance for physical loss of or damage to valuable papers and records in the premises. The exclusions, however, apply only to *loss*. Again, we find the word "loss," implying that the property is no longer in existence. It may be inferred then that the policy covers any *damage* that may occur to the subject of this insurance as a result of the events outlined in the exclusions above.

Those who have studied the contract will probably call attention to the fact that, under Conditions, definition (c) provides that "the word 'loss' includes damage." We are not prepared to accept this definition as modifying any of the conclusions which we have reached about the exclusions in this policy. The insuring agreements refer to loss of or damage to valuable papers and records in the premises. The extension of the policy to cover valuable papers and records away from the premises, because of imminent danger or for any other reason, refers to loss or damage. The policy period refers to loss of or damage to valuable papers. *The exclusions only refer to loss.* It would appear inconsistent that the framers of the form would intend, by the use of definition (c), to amend the insuring agreements or the exclusions in this manner. To do so would leave the insuring agreement ambiguous. The policy provides for many duties on the part of the assured, and it is our opinion that the addition of definition (c) has not modified the insuring agreement or the exclusions, and only applies to the other provisions of the policy.

Condition (1) of the policy, in sub-section (a), contains a definition of "valuable papers and records." The policy defines valuable papers and records to mean written, printed or otherwise inscribed documents and records. What is the meaning of "written, printed or otherwise inscribed documents and records"? The word "written" is self-explanatory, and the word "printed" needs no definition. What meaning should we attach to the expression "or otherwise inscribed"? The word "otherwise" means in a different manner or way, or any other way or ways, under other circumstances. We doubt, however, if "otherwise" can be interpreted in this manner as used in this definition. We believe that "or otherwise" should be given an "*ejusdem generis*" interpretation. Under such an interpretation, a clean-up phrase, such as the term "otherwise," with respect to a classification which immediately precedes it, would include only things of a like kind or similar kind and nothing of a higher class than that which it immediately follows. Under an "*ejusdem generis*" interpretation, "or otherwise" would add nothing to the class of property which is the subject of insurance, and only printed and written documents and records would be insured under the policy, including books, maps, films, drawings, abstracts, deeds, mortgages and manuscripts.

If the policy is limited to written and printed documents and records, would the definition herein outlined cover I.B.M. cards which are neither written nor printed? A record is evidence of something written, said, or done. A document is an instrument upon which is recorded, by letters, figures or marks, matters which may evidentially be used. The words "records" and "documents" are very limited by the adjectives "written" or "printed" and appear to provide too limited coverage in this electronic age.

By definition, "money" is not covered. "Money" is not defined, but usually means currencies, coins, banknotes, and bullion. "Securities" are not covered, and the term is not defined. If we were to use the definition which is contained in the "Money and Securities Broad Form Policy," many classes of the written and printed material which is believed to be covered under this policy, would be excluded. As an example, would mortgages, deeds and abstracts be excluded by this exclusion? "Securities" is defined in this policy to mean "all negotiable and non-negotiable instruments or contracts representing either money or other property and includes revenue and other stamps in current use, tokens and tickets, but does not include money."

Section 2 of the Conditions, is entitled "Ownership of Property; Interests Covered." This is a rather unusual clause. It provides that the insured property may be owned by the insured or held by him in any capacity, but the insurance applies only to the interest of the insured in such property, including the insured's liability to others, and does not apply to the interest of any other person or organization in any of the said property, unless included in the insured's proof of loss. What the parties meant by the expression "Applies only to the interest of the insured in the property," and, "including the insured's liability to others," we do not know. It would appear to us that both sections of this clause mean the same.

The last portion of Section 2 provides that "Valuable papers and records are not covered unless included in the insured's proof of loss." This is a rather interesting condition. If a loss is covered in the event it is included in the named insured's proof of loss, it must be assumed that the policy provides insurance for the loss. In the event that the named insured was a bailee, was it the intention to provide insurance for the benefit of the bailor, only at the will of the bailee? If the named insured refused to include in his proof of loss, property, which is the subject of the insurance, belonging to a bailor, would an insurer be placed in the same position as the defendant in the Brown Paper Case, wherein the court said:

"The Brown Company's paper was therefore covered by the defendant's policy."

"Yet, it will do the company little good, unless this action can be maintained. Miller-Thompson & Co. refused to include the loss in its proof of claim. It settled for damage to its own property, leaving out the Brown Company and, of course, refused to maintain any action on the policies in behalf of the latter comapny. Its position was and is that the policies did not cover the Brown Company's damage. The insured's companies took a like position in the settling of the Brown Company's loss and claim. Unless this action lies, the Brown Company and its assignee are without remedy. Such lapses, the law seeks to avoid." The court permitted the bailor to collect under the bailee's policy.

It is to be observed that the insuring agreements provide only for the insuring of valuable papers and records, but in Exclusion (e) and in Condition (2), reference is made to property. What is meant by this significant change is not known. Was it the intention of the framers of this form to include not only the value of the paper plus the cost of putting figures on paper, but also to include the value to a business of the records which were the subject of insurance.

Condition (3) of the policy is a unique clause, and is found in very few other policies. It provides that if there is more than one assured named in the Declaration, the assured first named shall act for himself and for every other assured for all purposes of this policy. Knowledge possessed by any assured shall for the purpose of the Condition, "Insured's Duties When Loss Occurs," constitute knowledge possessed by all assureds. Cancellation of this policy, by or through notice to the assured first named, shall be deemed to be cancellation of the policy with respect to all assureds. We question very much whether the provisions of Condition (3) of the policy would be enforced by the courts. It is interesting to observe that the last sentence of Condition (3) provides for the manner in which the policy may be cancelled and is in conflict with Section (12) of the policy wherein the manner of cancelling the policy by the assured and by the company is outlined.

Condition (4) of the policy provides for "Limits of Liability; Valuation; Settlement

Options." Actually, the policy does not contain a Valuation Clause. Condition (4) provides that the limit of the company's liability for loss (and this may include damage) shall not exceed the actual cash value of the property at the time of loss, nor what it would cost to repair or replace the property with other like kind and quality, nor for more than the applicable limit of the insurance stated in the policy.

It is to be observed that the limit of the company's liability for loss and damage shall not exceed the actual cash value of the property (this could be greater than the cost to replace because it could include the value to the business of the valuable papers and records) at the time of loss. What property? The property which has been lost and/or damaged, or the property insured under the policy? Nowhere is there reference to the amount of loss and damage to the property, but the policy provides that the company's limit of liability for loss and damage shall not exceed the actual cash value of the property at the time of loss. It would be logical to assume that this refers to the actual cash value of all the property which is the subject of insurance, and the insurer would not be liable for more than this amount. It may be logically concluded that the next provision is also a limit of liability, but refers to the cost to repair or replace the property. Here again, we are not referring to valuable papers and records as defined in the policy, but to property which may exceed the defined subject of insurance.

The last sentence of the first paragraph of Section (4) provides that "as respects property specifically described in Section (a) of Item (3) of the Declarations" (and this is for specified articles in which a value is set forth) "the amount per article specified therein is the agreed value thereof for the purpose of this insurance." It is to be observed that the value for each specified amount shall be the agreed value, but nowhere in this clause, or in the policy, is there a specific agreement that the insurer shall be liable for this amount or for a greater amount.

The company has a settlement option to pay for the loss and damage in money, or to repair or replace the property.

Condition (5) of the form provides for the "Insured's Duties When Loss and Damage Occurs." Sub-section (b) of paragraph (5) provides for the filing of a detailed proof of loss, but nowhere in the policy is there described what should be included in a detailed proof of loss. A letter written to the company, under some circumstances, would meet this requirement.

Condition (6) of the policy provides for "Other Insurance." This is a very interesting clause. It provides that if there is available to the assured *or any other interested party*, any other valid and collectible insurance which would apply in the absence of this policy, the insurance under this policy shall apply only as excess insurance over such other insurance. This condition would appear to supersede the alleged valued features of other sections of the policy. When one considers that the fire insurance policy, the boiler policy, the accounts receivable policy under the expediting feature, and the bankers' blanket bond all contain coverage of a limited nature for the replacement of valuable papers and records, it is readily understood that under ideal circumstances, the valuable papers and records policy will, in some instances, provide no insurance for the insured. The entire policy, when considered from the provisions of this clause, is very deceptive.

The insurance administrator, in the past, has not been given the status which he rightly deserves. The procurement of insurance has been arranged, to a large extent, in the same manner as other commodities. Management has taken an inadequate interest in the losses the corporation may suffer as a result of everyday acts. The application of legal principles followed by the courts in determining the value of interest loss as a result of the happening of a peril, is frequently not considered.

In their everyday duties, executives must be conscious of the acts that create liability for the corporation. They must be made to understand that in the preparation of business contracts, much of the liability therein created will be reinsured by professional insurers, and they must

co-operate and use the insurance administrator as a staff advisor in their actions. Colleges and universities should be considering the special training required of a staff officer of this type and provide facilities for his training.

GAME-THEORY AND INSURANCE CONSUMPTION

C. Arthur Williams, Jr.

University of Minnesota

New methods of quantitative analysis such as linear-programming, and game-theory have become increasingly important during recent years, both as research techniques and as part of business and economics curricula. To date, however, little has been done to relate these techniques to insurance. The purpose of the present article is to apply one of these methods, namely, game-theory, to a problem in insurance consumption.[1]

Rational Behavior and Game-Theory

Game-theory [2] has been advanced as a description of how people *do* behave in situations involving risk or uncertainty and as a prescription as to how they *should* behave if they wish to achieve certain results.

With respect to how people should behave, one group of game-theorists believes that in a given situation, almost everyone has a rational objective, but this objective need not be the same for each person. Any reasonable objective is rational. These economists believe that a person acts rationally if he chooses that decision-making rule which is most likely to enable him to accomplish his objective. The other group believes that in a given situation, there is one rational objective for everyone. Consequently there is one rational decision-making rule.

A large majority in both camps believe that people do behave rationally to achieve their objectives. Therefore, members of the first group reason that if they can discover the major objectives which motivate people, they will be able to state several typical decision-making rules. Members of the second group believe that their rational decision-making rule is typical because their rational objective is typical.

In this paper, several of the objectives which have been recognized by game-theorists will be discussed in order to determine whether each objective and the corresponding rational decision-making rule are typical of insurance consumers or advisers. Each objective and decision-making rule will also be evaluated according to the following criterion: would an adviser trained in insurance principles

[1] This application was suggested to the author several years ago by Professor Leonid Hurwicz of the University of Minnesota. Professor Hurwicz read the original draft of this article prepared at that time and made some helpful suggestions but responsibility for this final draft is solely that of the author.

The author is also indebted to Dr. Alice M. Morrison whose doctoral dissertation on *Consumer Choice in Insurance*, Iowa State University, 1949 is the only other study of which the author is aware which is devoted exclusively to the application of game-theory to insurance consumption. The present article may indeed be viewed as an extension of her work. Of the seven cases to be discussed here, Cases I and IV are analyzed in detail in Dr. Morrison's thesis.

[2] Many excellent descriptions of game theory are now available. Three examples are the pioneering work by J. von Neumann and O. Morgenstern, *Theory of Games and Economic Behavior*, Third Edition, Princeton: Princeton University Press, 1953, J. C. C. McKinsey, *Introduction to the Theory of Games*, New York: McGraw-Hill, 1952, and Leonid Hurwicz, *"Game Theory and Decisions," Scientific American*, CXCII, February, 1955.

establish this objective or follow this rule if he were in the same situation?

Fact Situation to be Analyzed

Most of the discussion will center around a person who does not know whether he should buy fire insurance on his dwelling. In order to simplify the problem, it will be assumed, for the present, that the choice is either no insurance or full insurance to value and that the result is either a total loss or no loss. It is also assumed that there are no alternative uses for the premium, such as a different form of insurance protection or a new overcoat. These limitations will be removed later.

Table 1 below summarizes this situation.[3] In the text, this table will be referred to as the loss table.

TABLE 1

Loss in Utility

Decision	*Total Loss*	*No Loss*
No insurance	L + N + W	W
Fire insurance	P + N	P

In this table

L = loss in utility for which the insured will be reimbursed if he has insurance;
N = loss in utility for which insurance affords no protection (inconvenience, for example);
P = loss in utility if the premium is paid;
W = loss in utility due to worry if the person decides not to buy insurance.

Utility or satisfaction is used in the table instead of dollars, because it is important to consider the diminishing or increasing marginal utility of money. It is assumed that a person can assign some utility unit to P, say, and express W, P + N, and L + N + W as multiples of P.[4] Because of the diminishing (increasing) marginal utility of money it should be noted that the value of P, for example may be less than (P + N) − N. However, in order to simplify the decision-making rules, this fact will be ignored in the following case analyses.

The subjectivity of the worry factor should also be emphasized. One person, facing a given potential loss, may worry much more than another who faces the same loss and has the same economic status, simply because it is his nature to worry. Consequently it is possible for the loss in utility under a no-insurance decision, to be greater for one person than for another solely because of differences in W. This subjective element may cause these two persons to make different decisions. In the discussion which follows, it will be argued that in order to make a rational insurance decision, the individual, in addition to using a rational decision-making rule must assign a "rational" value to W.[5]

Analysis of Various Objectives

Seven different objectives are analyzed in the paragraphs which follow. As already stated, two questions will be asked in each case: 1) Is the behavior-pattern suggested by this objective, typical of insurance consumers or advisers? 2) Would this behavior-pattern be followed by an

[3] This table is almost identical with that presented by Dr. Morrison in her thesis.

[4] How utility might be measured has been discussed at length in recent writings. In this paper it shall simply be assumed that it can be measured. The actual measurement would, however, complicate the practical application of the decision-making rules presented later.

For a summary of the arguments on the measurement of utility, see Armen A. Alchian, "The Meaning of Utility Measurement," *American Economic Review*, XLIII, No. 1 (March, 1953), 26-50.

It should be noted that in a few of the case analyses, a decision-making rule can be formulated without measuring utility. It is sufficient to rank the values in the tables to reach a decision.

[5] If a person does not worry at all about a serious potential loss which is uninsured or even enjoys taking a chance, he may decide not to buy insurance solely for this reason. Because he does not worry, his utility position at the time the decision is made may be superior to that of a more cautious person who buys insurance. His decision may prove very costly in the future, however, because in making decisions affecting the future, it pays to worry the right amount about the right things.

adviser trained in insurance principles, if he were faced with the same problem?[6] If the answer to the first question is yes, the objective and the associated decision-making rule will be considered typical; if the answer to the second question is yes, the objective and the corresponding rule will be considered rational.

Case I. Minimize Loss in Utility During Policy Period; Pessimist

In this case, the person wants to minimize his loss during the policy period if a fire occurs. Given this objective, there is no doubt that the rational thing to do is to buy insurance.

This case is treated at length by von Neumann and Morganstern.[7] It assumes that if two persons engage in a game and neither knows what the other is going to do, it is rational behavior if each acts in such a way as to maximize his minimum gain (or minimize his maximum loss).[8] If one of the players is Nature and nothing is known about her behavior, the rational thing to do is to assume that Nature will be at her worst and act accordingly. In the case of fire insurance, assume that fire is bound to occur and buy insurance if $P \leq L + W$.[9]

This behavior is not typical of insurance consumers or advisers for if it were, insurance rates could be much higher than they are today and there would be little reduction in the insurance in force. In fact, would any insurance consumer knowingly pay a premium which even approximated the maximum loss?[10]

Is this objective rational? von Neumann and Morganstern claim that it is when you have no knowledge of what the other player will do. In insurance questions one never knows exactly what will happen during the policy period. If he did, either he would not buy the insurance or the insurer would refuse to issue the policy.[11] However, it is also true that there are extremely few (if any) situations where the consumer or adviser is not willing to make some estimate of the probability of loss.[12] If this estimate is available (and it usually is), it is not rational to use this objective. Even in the rare case where there is no such estimate, an insurance adviser should not use the decision-making rule produced by this objective for, in practice, it is difficult to think of a case where P is even close to L and, if he were to follow this rule, the adviser would always recommend insurance, even when the loss was not important.

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[6] It is assumed throughout the article that the insurance adviser places himself in the position of his client. If the adviser acts in his *own* best interest, the decision-making rule may be different because the loss table will be different. In that event, the items in the table will indicate the presumed effects upon the adviser instead of the client. There is little doubt that many advisers do reason in this way.

[7] J. von Neumann and O. Morganstern, *Theory of Games, op. cit.*

[8] von Neumann and Morganstern point out that a pure strategy (fixed behavior pattern) exists whenever the same figure is the minimum of its row and the maximum of its column, or vice versa. Miss Morrison has demonstrated in her thesis that a minimax solution always exists in an insurance loss table such as Table 1 because all of the figures in the first column exceed the corresponding figures in the second column. The correct decision is the one with the lowest value in the first column.

[9] Actually if $P > L + a\,W$ where $0 \leq a \leq 1$, the person would be better off if he put an amount equal to L into a self-insurance fund, for with this fund at his command, $W = O$.

[10] It might be argued that some do because they pay for full coverage policies instead of taking advantage of deductibles, but would the difference between full and deductible coverage be purchased if it were marketed separately? Perhaps this is a way to increase the use of deductibles.

[11] It is true that some people may plan to set fire to their property and the insurer may not be aware of their plans, but fortunately such situations are apparently rare.

[12] In fact, a risk is not supposed to be insurable unless the chance of loss is calculable.

Case II. Minimize Loss During Policy Period; Optimist

This individual wants to minimize his loss if a fire does not occur. Given this objective, the rational thing to do is to refuse to buy insurance unless $P \leq W$. In the terminology of the theory of games, this is the minimin or maximax solution. Assume that the best will happen and act to maximize your minimum gain or minimize your minimum loss.

Typical insurance consumers or advisers do not behave in this way. If they did, the insurance industry would not be as important as it is today.

As in the previous case, this objective is considered rational by some in the absence of any knowledge, but in insurance problems there is usually some information available concerning the probability of loss. Certainly no trained insurance adviser should recommend refusing insurance if $P > W$.

Case III. Minimize Expected Loss During Policy Period

Statisticians use the term "expected loss" to refer to the average loss over a long period of time. The person who succeeds in minimizing his expected losses will have the smallest average loss in the long run. A person wishing to achieve this objective would proceed in the following way: first he would compute the expected loss in utility, on the assumption that insurance is purchased and compare it with the expected loss in utility, on the assumption that insurance is refused. Then he makes that decision which will produce the smaller expected loss.

Put in terms of a decision-making rule, if p is the probability of a fire, the person will buy insurance if $P \leq p\ L + W$ and refuse to buy if $P > p\ L + W$.

Adoption of this decision-making rule may not always lead to the lowest average utility losses in the long-run because the actual probability may differ from the estimated probability. Estimates may be good or bad; they may be objective or subjective. There are a few cases where an individual's experience may be extensive enough for him to estimate fairly accurately the probability of loss applicable to his own exposures, but even here secular and cyclical changes may affect his estimate. Usually the estimate is a mixture of objective and subjective elements. The objective elements include past experience and an analysis of present physical and personal hazards. The subjective element is the psychological make-up of the individual—is he more apt to be optimistic or pessimistic concerning the future?

Some individuals may decide on a range of probabilities instead of a single figure. The decision-making rule already adopted can be modified to include this and other possibilities. Consider an expected loss in utility table, such as Table 2. Each value in the table represents the average loss in utility corresponding to a given value of p and the choice made. The number of columns corresponds to the number of p values which the individual wishes to consider. If he believes that $p = 1$, the expected loss in utility will equal the

Table 2

Expected Loss in Utility

	p_1	p_2	..	p_k
No insurance	Expected utility loss / p_1; no ins.	....	....	Expected utility loss / p_k; no ins.
Fire insurance	Expected utility loss / p_1; ins.	....	....	Expected utility loss / p_k; ins.

loss in utility during a policy period and Cases I and III produce the same decision-making rule — buy insurance if $P \leq L + W$. If he believes that $p = O$, the decision-making rule reduces to that of Case II—buy insurance if $P \leq W$. For any single value of p, the decision-making rule is the one already discussed—buy insurance if $P \leq p\ L + W$.

However, as already stated, the person may not know which of a set of possibilities is the best estimate and there may be many columns. In such a case the objective may be (1) to minimize the maximum expected utility loss, (2) to minimize the minimum expected utility loss, or (3) to assign some weight to each of the p values and to select that course of action which will produce the minimum expected utility loss. In the insurance problem under investigation, the expected utility loss decreases as the probability of a loss decreases, whether insurance be purchased or not. Consequently, choosing the first decision-making rule is equivalent to assuming that the highest listed probability is correct. Choosing the second decision-making rule is the same as assuming that the lowest listed probability is correct. In other words, choosing one of these objectives is the same as setting p equal to a single value, but the subjective element of the probability estimate is emphasized. In the same objective situation, some people use high loss probability estimates, while others use low loss probability estimates.

The third objective, on the other hand, is a new and important one. The insured in this case feels that the true probability is one of a set of probabilities and he is willing to assign some weights to the different members of the set. A common case would involve a range with equal weights assigned to values within the range. Since the expected utility values are a linear function of the probabilities, i.e., $(L + N + W)\ p + (1 - p)\ W = W + (L + N)\ p$ and $(P + N)\ p + (1 - p)\ P = P + N\ p$, it will be sufficient to assign equal weights to p_1 and p_2, where p_1 and p_2 are the upper and lower bounds of the range and to make that decision which will minimize the expected utility. The decision-making rule tells one to buy insurance if $P \leq (\frac{1}{2}p_1 + \frac{1}{2}p_2)\ L + W$. In the more general case where there are k probabilities, $p_1, \cdots, p_k$ with weights $w_1, \cdots, w_k$, the sum of the weights being unity, the decision-making rule would recommend insurance if $P \leq (w_1p_1 + w_2p_2 + \cdots + w_kp_k)\ L + W$. In other words, choosing this third objective is the same as setting p equal to a weighted average of the probabilities.

The author believes that the behavior pattern suggested by this objective is fairly typical of insurance consumers and advisers. Consider the case of an individual whose probability estimate is the same as that underlying the insurance rate. This insured may be willing to pay more than the actuarial value of the loss for two reasons: 1) diminishing marginal utility of money and 2) the worry factor. The decision-making rule which tells one to buy insurance if $P \leq p\ L + W$, and P, L, and W are measured in utility terms, is in keeping with this reasoning. If the marginal utility of money is a decreasing function for the consumer, p L will be greater than the loss in utility associated with the actuarial value of the dollar loss included in the premium. The effect of the W factor is clearly to increase the premium the consumer is willing to pay. Most economists have emphasized the effect of the marginal utility of money [13] but in the opinion of the author, the worry

[13] See, for example, Paul A. Samuelson, *Economics, An Introductory Analysis*, Fourth Edition, New York: McGraw-Hill Book Company, 1958, p. 434, and M. Friedman and L. J. Savage, "The Utility Analysis of Choices Involving Risk," *Journal of Political Economy*, Vol. 56 (August, 1948), 279-304. The effect of changes in the shape of the utility function are examined in the classic Friedman-Savage article.

factor must be at least equally important in the minds of most consumers.

Is this objective rational? It makes sense to minimize one's expected losses. However, in order for the decision-making rule to yield results which a trained insurance adviser would consider desirable, the probability estimate should be as objective as possible and the individual should be aware of the consequences of an uninsured loss. In other words, insurance advisers and insurance consumers may agree on the same decision-making rule, but they may disagree on the values of p and W. Only when the values of p and W are rational can this decision-making rule be said to be rational. The individual should be taught that W should depend more upon the severity of losses than the frequency of losses. He should worry most about those losses which, if they do occur, will be a financial catastrophe. The inconvenience-type losses, even when they occur frequently, are much less important.

If an insurance adviser always followed this rule, what advice would he be giving? If the coverage is an important one, i.e., if the potential loss is great and the worry factor high, he would always recommend insurance, because the premium will always satisfy the inequality. If the coverage is not important, i.e., if the worry factor is low, in practice he will usually tell the insured not to buy insurance, for the premium will usually not satisfy the inequality. However, if the individual risk is among the worst in its class or if the insurer is underpricing its product, he may advise buying some unimportant coverage simply because it is a bargain.

Case IV. Minimize Maximum Regret at the Close of the Policy Period

Some persons are very concerned about wrong decisions they have made. Certainly many people have purchased term life insurance and have complained at the end of the policy period because, in their opinion, they have received nothing for the premium paid. Others have complained, after a fire, that they should have taken out insurance on their property. Regret is to be distinguished from worry. Regret is an emotional reaction after a loss or at the end of the policy period; worry is an emotional reaction before a loss or before the end of the policy period.

Some mathematical economists have argued that that decision is best which minimizes the maximum regret, where regret is defined as the difference between the actual result under the choice made and the lowest possible result. For example, Table 3 is the regret table corresponding to Table 1.

TABLE 3

	Regret	
Decision	*Total Loss*	*No Loss*
No insurance	$L + W - P$	0
Fire insurance	0	$P - W$

If there is one figure in the table which is both the minimum of its column and the maximum of its row, there is a minimax solution. This would happen if $P \leqq W$ or $P \geqq L + W$. A rational person, desiring to minimize his regret, would buy insurance if $P < W$ and refuse to buy if $P > L + W$. For most people, $W < P \leqq L + W$ and it would be impossible for them to achieve their objective except by chance, for if the loss occurs, the insured should have purchased insurance; if not, he should not have purchased insurance. It is possible that many people do behave in this way, but it is disturbing to know that in most cases they will never achieve their objective except by chance. Certainly an unattainable objective should not be considered rational by an insurance adviser.

Case V. Minimize Maximum Expected Regret.

An individual may wish to minimize his expected regret, but this expected re-

gret depends upon the probability of loss and he may have no idea what that probability of loss is. von Neumann and Morganstern have shown that the maximum expected regret can be minimized by adopting a randomized behavior pattern.[14] For any other behavior pattern there is at least one probability value for which the expected regret would be greater.

Instead of following one course of action all of the time, the person decides to buy only part of the time. Once this proportion is computed, the insured decides in each particular case whether he should buy, by using some random device. When an event occurs which has a probability equal to the proportion selected, the individual buys. Otherwise he refuses. For example, if the insured decides to buy fifty per cent of the time, he can toss a coin and whenever a head appears, he buys. The ratio of actual purchases to the number of possible purchases is obtained by assuming that the ratio is p_a, equating the expected regret on the assumption that the probability of loss is zero, to the expected regret on the assumption that the probability of loss is unity, and solving for p_a. The solution for p_a in the case of Table 3, is

$$(1 - p_a)\ (L + W - P) = p_a\ (P - W)$$

$$p_a = \frac{L + W - P}{L}$$

If $P \leq W$, $p_a = 1$; if $P \geq L + W$, $p_a = 0$. These two inequalities produce a minimax solution and minimizing the maximum expected regret is the same as minimizing the maximum regret at the end of one policy period. For $W < P < L + W$, p_a increases directly with P. In practice, this would lead to acceptance most of the time since P is usually a very small proportion of L.

This description may fit certain insurance buyers and advisers, but it is not typical behavior by any means. How many individuals buy fire insurance in some years and not in others? It is probably most applicable in the case where an individual has many exposures and insures only part of them, but this rule would require him to determine randomly, at the beginning of each policy period, which exposure he will insure.[15] The rule cannot be considered rational because, among other things, it ignores information which is usually available.

Case VI. Minimize Expected Regret

This insurance consumer or adviser wants to minimize his expected regret on the basis of some probability estimate p. He decides to buy when

$$(1 - p)\ (P - W) \leq p\ (L + W - P)$$
$$\text{or } P \leq p\ L + W.$$

Otherwise he refuses to buy. This, however, is the decision-making rule which also minimizes the expected losses. This result makes sense because the expected regret will be at a minimum when the expected losses are at a minimum.

As in Case III, the individual may not know which of a set of probabilities is the best estimate and it may be necessary to construct a regret table from a loss table, such as Table 2. This regret table is

[14] If it were not for the special characteristics of the insurance two-by-two table which always produces a minimax solution, this randomized behavior would have had to be explained earlier.

[15] It has been argued that this behavior may be typical of insurance advisers acting in their own best interest (see fn. 6) because they realize that their advisees will take their business elsewhere unless the advice they have received leads to satisfaction at the end of the policy period. According to this argument, the advisers are more interested in minimizing the maximum expected regret than they are in minimizing the expected losses, because they have nothing at stake except their reputation and this depends upon regret. This concept is debatable but certainly the rational decision-making rule for achieving this objective is not typical.

constructed by comparing the expected losses under the decision to buy, with the expected losses under the decision not to buy, for each of the k probabilities. The objective is to minimize the average regret. The decision-making rules which result are the same as those which minimize the expected losses. In general, if an insured wishes to consider probabilities $p_1, p_2, \cdots, p_k$ with weights $w_1, w_2, \cdots, w_k$, the rational thing to do is to buy insurance if

$$P \leqq (w_1p_1 + w_2p_2 + \cdots + w_kp_k)\ L + W.$$

Minimizing the expected regret is the same as minimizing the expected loss in utility. Therefore, all that has been said regarding the decision-making rule in Case III is true here. Many people do behave in this way and it is rational for them to do so.

Case VII. Minimize Maximum Expected Regret; Limited Range of Probabilities

Consider the generalized regret table discussed in Case VI. Instead of assigning weights to each of the probabilities in the table, the individual may prefer to minimize the maximum expected regret, on the assumption that one of the k probabilities is correct but he has no idea which one it is. This results in a randomized behavior pattern except when there is a minimax solution.

The arguments concerning the rationality and representativeness of the behavior pattern in Case V apply here and need not be repeated. However as the range between p_1 and p_k decreases, the decision-making rule becomes more plausible because it approaches the one used by a person who wants to minimize his average utility losses and his average regret, on the basis of a weighted average of the admitted probabilities.

Relaxation of Assumptions

In the preceding paragraphs, several possible decision-making rules were discussed, and each one may have been used at some time by a small group of insurance consumers or advisors. One rule appears both fairly typical and rational. The objective is to minimize the expected loss in utility and the expected regret, and the decision-making rule is as follows: buy insurance when

$$P \leqq (w_1p_1 + w_2p_2 + \cdots + w_kp_k)\ L + W$$

where $p_1, p_2, \cdots, p_k$ are the possible probabilities and $w_1, \cdots, w_k$ are the respective weights, the sum of the weights being unity.

This decision-making rule was obtained on the assumption that the only alternative to no insurance is full insurance and that if a loss occurs, it will be total. It has also been assumed that the insured has no competing demand for the premium, such as a new suit or alternative insurance protection. These assumptions are very unrealistic, but fortunately it is possible to use the same general approach in situations where they are not met. For example, assume that the problem is to determine the correct amount of insurance on the assumption that the insurance is

Table 4

Loss in Utility

Amount of	*Insurable Loss in Dollars*				
Insurance	*0*	*$1,000*	*$2,000*	*$3,000*	*$4,000*
0	W_0	$W_0 + L_1$	$W_0 + L_2$	$W_0 + L_3$	$W_0 + L_4$
$1,000	$P_1 + W_1$	$P_1 + W_1$	$P_1 + W_1 + L_1$	$P_1 + W_1 + L_2$	$P_1 + L_3 + W_1$
2,000	$P_2 + W_2$	$P_2 + W_2$	$P_2 + W_2$	$P_2 + W_2 + L_1$	$P_2 + L_2 + W_2$
3,000	$P_3 + W_3$	$P_3 + W_3$	$P_3 + W_3$	$P_3 + W_3$	$P_3 + L_1 + W_3$
4,000	P_4	P_4	P_4	P_4	P_4

sold in units of $1,000 and losses are regarded as multiples of $1,000 up to $4,000. The assumption that there is no alternative use for the premium may be retained for the present. Table 4 is the loss table for this individual.

In this table, P_1, P_2, P_3, P_4 are the losses in utility when premiums are paid for $1,000, $2,000, $3,000, $4,000 of insurance; W_0, W_1, W_2, W_3 are the worry factors corresponding to insurance amounts of $0, $1,000, $2,000, $3,000; and L_1, L_2, L_3, L_4 are the losses in utility for dollar insurable losses of $1,000, $2,000, $3,000, $4,000. Non-insurable losses are excluded from the table because they do not have any effect on the decision. If the probability of loss is specified for each insurable loss amount, the expected loss in utility can be computed for each insurance amount and that amount is purchsed which will produce the minimum expected loss. No simple decision-making rule can be stated in this case and the computation can become very tedious if many different insurance amounts and insurable losses are admitted. The principle, however, still holds.

The assumption that the insured has no competing non-insurance demand for the premium can be handled by substituting the utility of the alternative demand for the utility of the premium. If the competing demand is alternative insurance protection, the expected loss in utility under both forms of protection can be compared. An important part of insurance programming can, in fact, be viewed as a ranking of the possible insurance coverages according to the expected losses in utility.

Game-Theory and Other Insurance Applications

The approach suggested by the theory of games is applicable to other problems in insurance besides determining the optimum amount of insurance. For example, it may help the insured to decide whether he wants a coinsurance clause on his fire policy and whether he should select workmen's compensation retrospective rating plan A, B, C, or J. By introducing a discount factor into the analysis, it may be possible to shed some new light on the old controversy of term insurance and investment versus permanent plan life insurance. However, it is not within the scope of this paper to consider these extensions.

Conclusion

The theory of games does not make it possible by any means to eliminate subjective elements in determining whether a person should buy insurance but it does suggest some interesting ideas concerning the objectives which people seek and how they should go about achieving these objectives. Not all of these objectives make sense in insurance consumption, but one appears both typical and rational. This objective is the minimization of both the expected loss in utility and the expected regret. If the problem is *how much* insurance to buy, that amount is purchased which will produce the minimum expected loss in utility. Many other insurance problems can probably be handled in a similar fashion.

An insurance premium (less dividends, if any) can be divided into two portions: one covers expected losses, while the other covers the expenses incurred in writing the policies. An insured may be willing to pay a premium which exceeds his expected losses for either or both of the following reasons: 1) diminishing marginal utility of money and 2) worry if the protection is not adequate. Insurance advisers cannot do much to change the utility function of an insurance consumer, but they can influence his valuation of the worry factor. To the extent that they are

successful in making this valuation more rational, by helping their client to identify all his potential losses and to rank them primarily according to their severity, they may increase the amount of insurance that their client is willing to buy, but what is even more important, they will enable that client to obtain the optimum protection for each premium dollar.[16]

[16] If the worry factor is so important to sound insurance buying, perhaps introductory insurance courses primarily intended for insurance consumers are failing to achieve their objective. It might be a wise policy in such courses, to spend more time exploring and comparing the consequences of the different types of insurable losses and less time on a detailed analysis of policy provisions.

THE REGULATION OF LIFE INSURANCE COMPANY INVESTMENTS

ROBERT E. SCHULTZ *and* RAYMOND G. SCHULTZ

University of Southern California

In terms of importance as a financial institution, the life insurance industry is second only to the banking industry, when total assets are used as a measure of size. Total assets of the life insurance industry were 114 billion dollars at the end of 1959, with a substantial majority of this total consisting of long term investments. Thus, when the magnitude of this source of funds is considered along with the fiduciary position of the life insurance companies in their relationship with their policyholders, it is only logical to expect comprehensive regulation of life insurance company investments.

The first state to enact specific legislation for the regulation of insurance companies was Massachusetts.[1] This statute, passed in 1852, also provided for the appointment of officials to carry out the regulatory provisions. In 1859, New York established an insurance department with duties similar to those performed by the Massachusetts department, and within the next ten years, thirty-five additional states either established special departments for the supervision of insurance or appointed officials to carry out such supervision.[2] While the regulation of insurance companies covered many important aspects of the business, the most important regulation covered policy reserves and investments of domestic companies.[3]

Restrictions on Investment Media of Domestic Companies

Real Estate

The acquisition of real estate is the most restricted area of investments made by life insurance companies.[4] With the exception of four limited modifications by New York, New Jersey and California, until 1942, the acquisition of real estate by domestic life insurance companies was limited by state statute to ownership of home and branch offices.[5]

[1] "The first official report on the business of insurance in Massachusetts was compiled by John P. Bigelow, Secretary of the Commonwealth, in 1838, under provisions of the Acts of 1837, C. 192. The Acts of 1852, C. 231, created a board of insurance commissioners consisting of the secretary, treasurer and auditor of the commonwealth, which was continued till the regular insurance department was organized, but the reports continued to be made by the secretaries of the commonwealth until 1856." Charles Kelley Knight, *The History of Life Insurance in the United States to 1870.* Philadelphia: 1920, p. 128.

[2] Joseph B. Maclean, *Life Insurance.* New York: McGraw-Hill Book Company, Inc., 6th edition, 1945, p. 461.

[3] "Many of the failures which took place in the period from about 1865 to 1885 were due to extravagance and inefficient methods, and some to dishonesty, but the largest number was due to the strict enforcement of state requirements, particularly regarding reserves and admissibility of assets." Maclean, *loc. cit.*

[4] Willis H. Satterthwaite, "Investments by Life Insurance Companies in Income Real Estate," *The Insurance Law Journal,* No. 296, Sept. 1947, p. 771.

[5] The New York insurance code was amended in 1922 to allow life insurance companies to invest in housing projects. This amendment expired in 1926 and in 1938 the New York Code was

Virginia, in 1942, was the first state to permit the acquisition of real estate which could be leased for the production of income. Since the Virginia modification, all but four states have modified their statutory restrictions, to allow the acquisition of income producing real estate as a permitted investment.

There is, however, a limit upon the extent to which a life insurance company may own income-producing real estate. These restrictions vary from 20 per cent of admitted assets, in the most liberal state, to 3 per cent in the most restrictive state.

Stock

In addition to the restrictions on real estate investment, most states put some type of limitation on the amount of corporate stock, both common and preferred, which a life insurance company may hold as an investment. Some states, such as California, distinguish between general investment funds and excess investment funds. These states allow insurance companies to invest only excess funds in corporate stock, with minimum standards specifying that the stock qualify as a "sound investment." They also provide that, in case of purchase, the price paid for the security may not be in excess of the current market price at the time of purchase. Excess funds, for California life insurance companies, are defined as the remainder of funds available for investment after the insurer has invested an amount equal to its required minimum paid-in capital, in securities specified as general investments.[6]

A second group of states places at the discretion of their insurance commissioners, the extent to which a domestic insurer may hold common stocks. A third group places a definite limit, either as a percentage of admitted assets or as a percentage of capital and surplus for capital stock insurance companies or surplus for mutual insurers.[7]

Further restrictions on common stock investments frequently specify to some extent the quality of the common stock and the minimum degree of diversification which must be maintained by the insurance company. This is done by permitting only the acquisition of common or preferred shares of corporations that have paid consecutive dividends over a specified previous period. Further, the investment usually may not exceed a certain proportion of the outstanding shares of the company.

In New York, for example, preferred or guaranteed stock is an eligible investment if the corporation's earnings for the last five years have averaged one and a half times its fixed and contingent charges and preferred dividends, or if earnings in the last two years have met this one and a half times requirement. The ownership of individual preferred or guaranteed stock issues cannot exceed 20 per cent of the issue or 2 per cent of total admitted assets of the insurance company. Common stock is eligible if (1) the corporation's senior securities are also eligible investments, (2) cash dividends have been paid for the last ten years (and earnings available for such dividends have amounted to a 4 per cent return on the par value or subscription price of the stock), and (3) the shares are registered on a national securities exchange (except issues of financial institutions). The ownership of individual common stock issues must not exceed 2 per cent of outstanding shares or 0.2 per cent of the in-

amended again to allow this type of investment. The New Jersey Code was amended in 1929 to permit life insurance companies to invest in housing of a slum clearance nature. The California code was amended in 1940 to enable insurance companies to construct and own housing projects within the state.

[6] *California State Insurance Code*, Article 4, Section 1196.

[7] New York uses both standards, i.e., 5 per cent of admitted assets or one-half of surplus.

surance company's total admitted assets.[8]

Government Securities

Investments in obligations of the United States, states, municipalities and the Dominion of Canada are allowed by every state as an admitted asset. The only restriction concerning such investment is the specification found in most investment laws that the bonds of states, municipalities or provinces of the Dominion of Canada must not have been in default during a prescribed number of preceding years.

Corporation Bonds

The bonds of corporations domiciled in the United States or the Dominion of Canada are also considered as a legal investment by all states. The state provisions permitting this investment, stipulate that the bonds must not be in default and that in no case may the insurer pay more for the security than the current market value at the date of purchase. There are usually further general restrictions on this type of investment, specifying that the maximum amount that may be loaned to any one borrower is restricted to a certain percentage of admitted assets of the domestic insurer.

Mortgages

Investment in real estate mortgages is restricted by all states to first mortgages. That is, there can be no other lien on the property which has a prior position to that of the insurance company. The other major restriction regarding mortgage loans on real property, places some percentage limit on the extent to which the company may loan money. The most liberal state provision allows domestic insurers to loan up to seventy-five per cent of market value. However, a majority of the investment laws restrict the percentage that may be loaned to sixty-six and two-thirds per cent of market price or approved value.

Policy Loans

States have placed no restriction on the investment by life insurance companies in their own policies; however, the policy loans may not exceed the reserve against such policies at the time the loan is made.

Leeway Provisions

Recently, further flexibility in their investment policy has been allowed domestic companies in some states, by the enactment of "leeway" provisions. To date, thirteen states have enacted "leeway" provisions into their insurance statutes. These statutes provide that a domestic company may make loans or investments not otherwise qualified or permitted under the general investment provisions. The amount of the investment is not to exceed, in the aggregate, a specified percentage of the insurer's total admitted assets. The actual percentage permitted varies from one per cent of admitted assets in New York, to ten per cent of admitted assets in New Hampshire. An additional limitation is frequently included, which restricts the amount of any one such unauthorized investment to not more than one per cent of admitted assets.

Regulation of Foreign Companies

In addition to the fact that life insurance companies must conform to the investment statutes of their individual state of domicile, they incur other statutory restriction if business is carried out in a state other than the domiciliary one. The ability of a state to regulate the investment standards of a foreign company has

[8] *New York Insurance Code*, Sec. 81, Par. 3, 13.

been well established by the courts.[9] Restrictive statutes on foreign companies may either apply the same standard that is applicable to domestic companies, or the state may establish a special standard which applies only to foreign companies.[10] The constitutionality of laws which set forth more severe restrictions on foreign companies than are placed on domestic companies, was challenged after the S.E.U.A. decision had declared insurance to be interstate commerce. However, when the constitutionality of a South Carolina statute that levied a special tax only on foreign insurance companies was challenged, the Supreme Court of the United States held that: ". . . it follows from what has been said that we are not required to determine whether South Carolina's tax would be valid in the dormancy of Congress' power. For Congress has expressly stated its intent and policy in the McCarran Act. And, for reasons to be stated, we think that the declaration's effect is clearly to sustain the exaction and that this can be done without violating any Constitutional provision."[11]

Laws regulating the investment activities of foreign insurance companies are of three general types:

(1) Statutory authorization to refuse a license to a foreign company if its investments are not in substantial compliance with requirements which are applicable to domestic companies[12];

(2) Statutes incorporated in the state constitution or in the insurance code, which stipulate that foreign companies shall not be allowed to transact business on more favorable conditions than are prescribed by law for similar companies domiciled in the state. In addition, some of the states in this group specifically give the commissioner the right to deny a license (or certificate of authority) whenever, in his judgment, the investments of the foreign corporate insurer are not so made as to make available within a reasonable time, money to meet promptly any demand which might, in the ordinary course of events, be properly made against the insurer[13];

(3) Statutes which prohibit foreign companies from making investments not permitted by domestic companies; but the insurance commissioner may, at his discretion, recognize investments authorized by the company's state of domicile as being legal investments.[14]

Further power to regulate investments of foreign insurance companies is given to the state commissioners through the

[9] "Section 56 of the New York Insurance Law (Consol. Laws, C. 28) was intended to require general conformity in investments between foreign and domestic insurance companies. Although the financial position of all companies, domestic and foreign, is subject to the superintendent's examination and discretion, the law certainly imposes upon him some absolute limitations. In saying that the investments of foreign companies must be of the same "general character" as those of domestic, it did not indeed lay upon him a rigid rule; but it did, we think, authorize his insistence upon the same proportion between holdings of stock in other companies and safer investments.

"Perhaps the power may be limited by the purpose and the fitness of the measure to accomplish it. . . . Scarcely any condition can be imposed touching the financial stability of a foreign corporation which will not involve some results elsewhere; it is enough that these be ancillary to the accomplishment of genuinely local purposes connected with the company's prospective business. Otherwise each state could set the standard of security for the rest of the Union, an intolerable limitation upon the autonomy of each community." (*Fireman's Insurance Company v. Beha*, 30 F. (2d) 539 (D.C. N.Y., 1928); aff'd 73 L. Ed. 517.)

[10] Satterthwaite, *loc. cit.*

[11] *Prudential Insurance Company vs. Benjamin*, 66 S.Ct. 1141.

[12] The laws of New York contain this type of provision—See *New York Insurance Code*, Section 90.

[13] The laws of California contain this type of provision—See Section 15, Article XII, *Constitution of California* and Section 706.5, *Insurance Code of California.*

[14] The laws of Kentucky contain this type of provision—See Section 304.453, *Kentucky Insurance Laws.*

enactment in thirty-eight states, of retaliatory laws.[15] Retaliatory laws have been applied, as a matter of practice, largely in the taxation field; however, they are in most instances equally applicable to investment regulation.

Retaliatory Laws in Investment Regulation

While there is some variance among the individual states in the wording of the retaliatory statutes, these laws may be classified into two groups. One group attempts retaliation on an all-inclusive basis, covering all facets of insurance company activities.[16] The other group contains retaliatory measures on specific activities, such as security deposits, agents' activities, taxation or investments.

The essence of the retaliatory statutes is a statement of policy by State A, whereby all other states are warned that if they regulate foreign insurance companies that are domiciled in State A, in excess of standards set forth in State A, then State A will regulate foreign insurance companies domiciled in the offending state or states, in the same degree. A typical retaliatory law provides:

> When by the laws of any other state any premium or income or other taxes, or any fees, fines, penalties, licenses, deposit requirements or other obligations, prohibitions or restrictions are imposed upon (this state's) insurance companies actually doing business in such other state, or upon the agents of said companies which in the aggregate are in excess of the aggregate of such taxes, fees, fines, penalties, licenses, deposit requirements or other obligations, prohibitions or restrictions directly imposed upon insurance companies of such other state under the statutes of this state, so long as such laws continue in force the same obligations, prohibitions or restrictions of whatever kind shall in the same manner and for the same purpose be imposed upon insurance companies of such other state doing business in (this state).[17]

The importance of retaliatory statutes on the investment activities of life insurance companies may increase in the future. The fact is that several states have enacted, or are in the process of enacting, retaliatory provisions whereby foreign corporations will be taxed at a greater rate than domestic corporations, unless the foreign corporations have made an investment in the specific state of a certain percentage of total admitted assets. An example of this type of legislation is found in the Alabama Law Act No. 77, Second Special Session 1955.

> Section 816 . . . every other foreign insurance company, including foreign life insurance companies, shall pay an annual premium tax of one per cent (1%) on annuity considerations, and an annual premium tax of three per cent (3%) of any other premiums received by such foreign insurance company for business done in this State, whether the same are actually received by said company in this state or elsewhere, during the year ending the thirty-first of December preceding . . .
> (b) If the annual statement or other report required to be made by such foreign insurance company to the Alabama Department of Insurance, whose premiums taxed under this article, for the preceding calendar year shows such company to have invested at the close of said year in Alabama investments, as hereinafter defined, the requisite percentages of its total admitted assets, the rate of premium tax hereby levied on premiums shall be that shown in the following schedules. In determining such total admitted assets, there shall be deducted that percentage of such company's investments held as of December 31 in direct obligations of the United States of America as the total premiums collected and paid by the citizens of Alabama relate to the total premiums collected by the company.

The extent to which this type of law will affect investments of foreign companies

[15] H. Harold Leavey, "Retaliatory Laws in the United States Relating to Insurance," *American Bar Association, Insurance Law Section*, 1952, p. 180.

[16] See *Illinois Insurance Code*, Section 444.

[17] *Iowa Insurance Code*, Chapter 505 (amended), 1955.

will depend on the per cent of investments required by the specific state.[18] If the investment percentage is fixed at an exorbitant rate, then it must be concluded that the purpose of the law is not to increase investments in the state by foreign companies, but rather it is an attempt to justify discriminatory tax treatment favoring domestic companies.

The overall economic consequences of retaliatory investment laws probably more than offset any tax revenue gains that might be achieved, since foreign insurers often find it difficult to secure suitable investment sources in all states where they write insurance. Therefore, there is a tendency not to do business in those states where the premium volume is insufficient to compensate them for the extra taxation involved. Hence, the end result of such laws is some degree of economic dislocation in the nation, both from the standpoint of insurance company investment and the performance of the basic insurance service.

[18] An example of the percentage of investment required of foreign companies to receive a tax concession is seen in the following schedule which was enacted as a part of Alabama Law, Act No. 77, Special Session 1955.

Percentage of Company's Admitted Assets Invested in Alabama Investments	*Applicable Rate of Premium Tax for All Other Insurance Companies Including Life Insurance Companies*
Less than 1%	3.0%
1% and above but less than 2%	2.9%
2% and above but less than 3%	2.8%
3% and above but less than 4%	2.7%
4% and above but less than 5%	2.6%
5% and above but less than 6%	2.5%
6% and above but less than 7%	2.4%
7% and above but less than 8%	2.3%
8% and above but less than 9%	2.2%
9% and above but less than 10%	2.1%
10% and above	2.0%

A MORE PERMANENT FORMULA FOR THE TAXATION OF LIFE INSURANCE

GEORGE E. LENT

The Amos Tuck School of Business Administration, Dartmouth College

The need for a new approach to life-insurance company taxation was recognized as early as 1947,[1] when the industry completely escaped tax under the 1942 formula. Since then that formula has been superseded by stopgap legislation, pending agreement on permanent legislation. This was finally achieved with the enactment of the Life Insurance Company Income Tax Act of 1959, applicable to income of 1958 and future years.

This article analyzes the inadequacies of this "permanent formula" and proposes a more enduring basis for the taxation of life insurance. However, it is important first to review the recent history of Federal life-insurance company taxation that led to the 1959 act and the principal issues that arose in its enactment.

The Business of Life Insurance

The proper approach to the taxation of life insurance has been frustrated by intra-industry conflicts, especially between mutual and stock companies. Fundamental to these delays has been the complexity of the industry and a failure to understand the real incidence of life-insurance taxes. Only by bringing their incidence into better alignment with taxes on competing investment income can any "permanent" formula long survive.

From the taxation viewpoint, conflicts arise in the basic structure of the industry itself with respect to: (1) form of organization; (2) types of insurance underwritten; and (3) comparative taxation of other types of investment competing for the saver's dollar.

Insurance companies are organized either as mutuals or private-stock corporations operated for a profit. There are about 1400 legal reserve companies in the United States, of which about 11 per cent are mutuals. However, mutuals account for about 62 per cent of all insurance in force and 75 per cent of all life-insurance company assets. In principle, the policyholders of mutuals are the beneficiaries of their net operating gains, whereas stockholders enjoy the operating gains of stock companies. (Some stock companies' business, of course, includes participating policies whose gains are shared with the policyholders.)

The business of life insurance companies is exceedingly complex. In addition to writing a variety of individual and group insurance policies, they may also underwrite: (1) individual annuities; (2) insured-pension plans (group annuities) which compete directly with tax-exempt trusteed pension plans; (3) cancellable and non-cancellable health insurance, competing directly with similar plans written by casualty insurance companies; and (4) various specialty types of business such as credit-life insurance.

[1] Statement of Secretary Snyder, December 26, 1949. Press Service, No. S-577.

The relative importance of different classes of business written by mutual and stock companies in 1957 is shown by Table 1.

TABLE 1

PREMIUM INCOME OF U. S. LIFE INSURANCE COMPANIES, 1957
(*millions of dollars*)

	Stock Companies	*Mutual Companies*	*Total Amount*	*Total Percent of Total*
LIFE INSURANCE POLICIES	*$3,650*	*$6,600*	*$10,250*	*69.4*
Ordinary Life and Endowment	2,200	4,725	6,925	46.9
Industrial Life	675	875	1,550	10.5
Term	75	175	250	1.7
Group Life	525	750	1,275	8.6
Credit Life	175	75	250	1.7
ANNUITIES	*325*	*1,075*	*1,400*	*9.5*
HEALTH	*1,575*	*1,325*	*2,900*	*10.6*
WORKMEN'S COMPENSATION AND OTHER	*225*	—	*225*	*1.5*
TOTAL PREMIUMS	$5,775	$9,000	$14,775	100.0

Source: *Senate hearings*, 1959, p. 86. Staff estimates based on *Life Insurance Fact Book*, *Spectator Year Book* and special tabulations of life insurance companies reports. Breakdowns are partly estimated.

Life Insurance Taxation Since 1942

The 1942 Act, like predecessor acts since 1921, taxed only the so-called free-investment income of life insurance companies, that is, net-investment income in excess of interest allowances on policyholders' reserves. The deduction was determined each year by the Secretary of the Treasury on the basis of a weighted average of the interest assumed by insurance companies and an arbitrary 3¼ per cent on reserves.[2] The net investment income remaining, after deduction of the reserve-interest credit, was subject to the corporate income tax rates. Although representative of conditions in the early 1940's, the fixed 3¼ per cent rate, weighted 65 per cent, departed from reality as companies adopted lower interest rates of 2-2¾ per cent on new policies, in line with lower market levels. As a result, the reserve-interest credit exceeded their net investment income and relieved them of tax.

In 1950, Congress adopted stop-gap legislation, pending agreement on a proper long-range approach to the taxation of life-insurance companies.[3] Known as the "1950 formula," this temporary provision simply dropped the arbitrary 3¼ per cent element in the computation of the Secretary's ratio. It was made applicable to 1949 and 1950, leaving 1948 completely free of tax.

This temporary legislation was succeeded, in 1951, by new stop-gap legislation, which converted the credit under the 1950 formula to a 6½ per cent maximum rate on net investment income.[4]

[2] In practice the Treasury computed a ratio of statutory assumed interest requirements to actual net income on investments of life insurance companies. The Secretary's ratio was then applied to the mean reserves of individual companies in determining its credit. In the years, 1947 and 1948, the ratio was in excess of 1.0, leaving no tax liability.

[3] In a letter to the Committee on Ways and Means, August 16, 1948, the Treasury recommended that the Secretary's ratio be frozen at 92 per cent until a permanent plan was adopted. The House rejected this proposal in favor of the average industry assumed rate (H.J. Res. 371), and this was approved by the Senate.

[4] In 1950, the Treasury suggested to the Committee on Ways and Means a total net income basis but this was not supported.

This was equivalent to freezing the credit ratio at 87½ per cent of net investment income, the ratio anticipated for 1951 under the previous stop-gap legislation. The 6½ per cent tax rate was extended from year to year until 1954, and became increasingly favorable as interest rates rose.

Following an extensive study by a subcommittee of the Ways and Means Committee,[5] in 1954, temporary legislation was adopted in 1955, to provide a reserve-interest deduction equal to 87½ per cent of the first million dollars of net investment income and 85 per cent of net investment income in excess of $1 million. At the 52 per cent corporate rate, the effective tax rate on net-investment income averaged about 7.8 per cent. This, the Mills-Curtis bill, was limited to 1955; the 1942 formula would automatically apply in future years if there was no extension. Because of delays in reaching agreement on new legislation, the temporary formula was extended in 1956 and 1957.

Finally, on April 10, 1958, the Treasury announced alternative solutions to the problem that had defied permanent legislation since 1949.[6] The Treasury recommended a net operating-gain approach that would include underwriting gains as well as net investment income in excess of amounts needed on policy reserves. The alternative was more in line with the traditional free-investment income approach supplemented by a tax on underwriting gains, intended to reach companies with relatively little net investment income. Later in the year, on November 17, 1958, the Treasury unveiled to the Committee on Ways and Means a plan implementing the latter proposal. This provided the basic structure for the Life Insurance Company Income Tax Act of 1959.

The 1959 Act marks a major breakthrough in restoring a total income approach to the taxation of life-insurance company income, which was abandoned in 1921. It provided for taxable income consisting of three major parts: (1) taxable investment income; (2) one-half of current underwriting gains; and (3) the other half of underwriting income when distributed to shareholders or when it meets other tests.

Taxable investment income includes interest, dividends, rents and other forms of investment income (after investment expenses), less a deduction for income required to meet reserve and other contract obligations. This reserve deduction is based on the average rate of return earned by each company, applied to its average adjusted policy reserves. Reserves are reduced 10 per cent for each 1 percentage point by which the earnings rate exceeds the average interest assumed by the company in computing its reserve requirements. Additional deductions are provided of 10 per cent of net-investment income, to a maximum of $25,000. The new law also taxes, for the first time since 1921, realized capital gains.

The second phase includes half the excess of net-operating gains from all sources, after policyholder dividends, over the taxable investment income computed in Step 1. This is essentially the underwriting gain or loss. Stock companies are also allowed a deduction for a so-called policyholders' surplus account, equal to 10 per cent of additions to reserves on non-participating policies (or 3 per cent of premiums) and 2 per cent of group-life insurance premiums.

The third phase provides for the taxation of income distributed to stockholders in 1959 and later years, out of the un-

[5] *Hearings on Federal Taxation of Life Insurance Companies.* 83d Congress, 2d Session, (December 13, 14, and 15, 1954).

[6] Letter from the Secretary of the Treasury to the Chairman, Committee on Ways and Means, *Hearings on Taxation of Income of Life Insurance Companies.* (November, 1958), p. 3.

taxed portions of phase 2 income. Income transferred to the so-called policyholders' surplus account in excess of 15 per cent of reserves or 50 per cent of premiums, whichever is higher, is also taxed to the extent that the account at the end of the taxable year exceeds 25 per cent of reserves at the end of 1958.

The new law is estimated to raise about $500 million revenue on 1958 income, against $319 million under the stop-gap formula and about $500 million under the superseded 1942 formula.

Policyholders' Taxable Income: Net-Investment Income

From the policyholders' standpoint, net-investment income is the only taxable income generated by a life-insurance company. Premium and investment income for each class of policyholders, are calculated to cover the total death claims and expenses that arise over the period of their lives. Because contracts are generally long-term, safety margins are allowed in calculating all three elements: claims, expenses and reserve interest. In the case of mutual companies (and, within limits, participating policies of stock companies), any excess of receipts over realized costs and surplus allocations is returned to the policyholders as dividends. It is, therefore, clear that policyholders as a group recover their net premiums (after expenses) plus the income earned on their funds. Net investment income is the only increment in value contributed by the insurance company.

Personal Income Taxation

Life insurance now largely escapes Federal personal-income tax. Proceeds of policies paid by reason of the insured's death are specifically exempted from income tax.[7] If the policyholder surrenders his policy for cash, at or before maturity, he is subject to income tax on any amount received in excess of net premiums paid during the policy's life.[8] Little or no taxable gain is realized in most of these cases, because the cost of insurance protection generally exceeds the interest in the reserve calculation. However, interest paid on matured policies left with the company, is legally subject to tax as it accrues.

Earnings on annuity contracts are not subject to personal income tax until receipt of the annuity. In general, annuities (including pensions) are taxed on the excess of payments received over the cost of the contract to the annuitant. This excess is generally prorated annually over the expected payment period, in accordance with actuarial tables prescribed by the Treasury Department. For example, if an annuity contract paying $1,000 yearly for life, costs $9,000 and if the annuity tables indicate 15 annual payments, aggregating $15,000, 60 per cent of each annuity payment ($9,000/$15,000) represents return of cost and 40 per cent, or $400, is considered as taxable income.[9]

Annuities payable after age 65, of course, generally result in lower taxes because of double exemptions, reduced earned income and reduction for the retirement-income credit (20 per cent of "unearned" income up to $2400 yearly).

Of the total annuities in force in 1959, only 26 per cent were currently paying out income; about sixty per cent were fully paid but were not distributing income; and 14 per cent were not yet fully paid for.[10] The great majority of these contracts, therefore, represent deferred-income annuities on which interest accumulates for some time before it is paid out and exposed to personal-income tax.

As previously indicated, the net-invest-

[7] *Internal Revenue Code of 1954*, Sec. 101(a).

[8] *I.R.C.*, Sec. 72.

[9] *I.R.C.*, Sec. 72. Alternatively, where an employee's contribution is recoverable in three years, all amounts received are excluded until this amount is recovered. (Sec. 72(d)).

[10] *Life Insurance Fact Book, 1960*, p. 31.

ment income of life insurance companies is now subject to a low Federal tax rate. Although the tax is assessed on the corporation, the policyholder bears its incidence. In the case of a participating policy, the tax reduces dividends otherwise payable to the policyholder. A nonparticipating policy generally includes the tax in the loading charge assessed in pricing the insurance. Properly assessed, such a tax on net-investment income, therefore, does not discriminate in the long run competitive pricing of insurance by mutual and stock companies.

From the policyholder's viewpoint, the low Federal taxation of life insurance income provides a tax haven comparable to that afforded by tax-exempt securities. No competing form of saving institution can match its tax advantages, especially for higher income groups. Interest earned on mutual savings bank deposits and dividends of savings loan associations is taxable at ordinary income-tax rates, ranging up to 91 per cent.

Taxation of Free-Investment Income

Rather than taxing directly the interest earned by policyholders on their life insurance savings (reserves and surplus), the Federal government has traditionally taxed life insurance investment income at the company level. In taking the corporate approach, the law has followed the conventional principle of allowing a deduction for interest expense in determining the so-called free-investment income. The proper basis for computing this deduction has long been the central issue in the investment-income approach: that is, whether the interest deduction should be based on the experience of the individual company or the entire industry.

In principle, a company's taxable free-investment income would appear to be the excess of its net-investment income over its actual interest cost, as in the case of other financial institutions. But the industry has almost unanimously opposed an approach based on the operating results of the individual company. Since 1921, the interest deduction has been based on industry-wide averages, with no account being given to an individual company's experience. Between 1951 and 1957, the average industry experience was converted to a low, standard tax rate.

A basic objection to the company-by-company approach has been the claim that it would penalize conservative financial policies. The tax incentive to increase the interest rate assumed in policy contracts, is alleged to encourage unsound competitive practices that might endanger solvency. On the other hand, an industry-wide formula gives substantial tax benefits to some companies, especially mutuals, with relatively large free interest, and discriminates against others, whose interest requirements may be barely earned.[11] It should also be recognized that it takes a long time for a rise in reserve-interest rates to take effect. For example, it was pointed out that if a company increased its interest rates, it may take as long as 18 years for its reserves to start declining.[12]

It is generally acknowledged that the individual company approach tends to discriminate against a company using conservative interest assumptions. The size of a company's reserves depends basically on three factors: (1) the mortality table used, (2) the rate of interest assumed and (3) the method used for valuation of reserves. The lower the interest rate assumed, the higher the reserve will be, because it takes a larger sum of money at a 2½ per cent interest rate to accumulate a certain fund than it takes to accumulate the same fund at, say 3½ per cent.

[11] For example, during 1951-1953, Connecticut Mutual and New York Life paid 45 per cent of the tax they would have paid on a company-by-company basis, against 212 per cent paid by Fidelity Mutual. *House Hearings, 1954*, p. 342.

[12] *Ibid.*, p. 78.

To equalize taxation of companies with the same earnings rate, but with different reserve-interest rates, would require recalculation of each company's reserves at a standard rate of interest. However, reserves can be adjusted for differences in reserve-interest rates by a simple formula, so as to achieve rough justice among companies using different interest assumptions.[13]

The 1958 House bill attempted to reconcile the divergent points of view by basing each company's interest deduction on the average of its earned rate and its assumed rate. If the industry assumed rate is higher, it can be substituted for its own. This average rate was to be applied to its mean reserves, after reduction by 10 per cent for each 1 percentage point by which it exceeded the company's own assumed rate. The Senate was then won over to the use of each company's actual 5-year average earned rate, subject to the 10:1 formula adjustment, at annual tax savings of $45,000,000.[14]

Congress finally adopted the lower of the 5-year average earned rate or the current year's rate. Life insurance companies (especially mutuals) thereby obtained the best of the possible worlds which they initially sought.[15]

The tax on net-investment income may be illustrated by the following example: If a company with $900,000 reserves and $100,000 surplus earns $40,000 (4 per cent) on its assets, and computes its reserves at 2½ per cent, its interest deduction would be $30,600 ($.04 \times \$900,000 \times .85$) and its taxable income $9,400 ($\$40,000 - \$30,600$). This is only slightly over half the $17,500 taxable income that would be based on a deduction for interest actually credited to policyholders' accounts ($\$40,000 - \$22,500$).

The interest deduction now allowed is completely divorced from reality. As now computed, taxable income is not measured by the difference between a company's earnings and its interest obligations to policyholders—that is, its free interest. A company's interest deduction is the entire amount *earned* on its reserves, subject to the reduction of reserves by the 10:1 ratio. The formula that reduces reserves by 10 per cent for each 1 per cent of earnings over the assumed

[13] Known as the Menge formula, it provides for an adjustment of 10 per cent in reserve, for each 1 percentage point difference in interest rate assumed. Variations depend on plans of insurance, age and duration of policy. For example, actuarial computations for a company 20 years old show that reserves computed on a 2½ per cent basis are 94.99 per cent of the 3-per cent reserves; therefore, a 1 percentage-point increase in the interest rate would result in a 10.02 per cent decrease in the amount of reserves. For a company more than 20 years old, the difference would be less than 10 per cent. *House hearings, 1958*, p. 257.

[14] The Finance Committee's decision to use each company's average earning rate was explained by "the view that the competitive pressures within the industry will, in the long run, force various companies to build into their price structure for their policies, a credit for interest on something like this basis." [*Report on HR 4245*, Report No. 291, 86th Congress, 1st Session (1959), p. 5.]

[15] In addition to pleading for the 5-year earnings rate, mutual companies urged, unsuccessfully, that free-investment income be computed after dividends to policyholders. See testimony of Deane C. Davis, National Life Insurance Company of Vermont, and Carroll M. Shanks, Prudential Insurance Company, *Senate hearings, 1959*, p. 69-70; 92-95. Their argument was based on the ingenious theory that the tax would otherwise rest on what belonged to the policyholders, and not on the company. This is because dividends represent a return of premiums, and not any real net gains on operations. Their position was somewhat compromised by a willingness to accept a credit for 50 per cent of dividends.

The inclusion of all free-investment income before reduction by dividends is essential to reach fully, interest that would otherwise escape tax in the hands of policyholders or their beneficiaries. The full inclusion of such investment income is also essential to the equalization of tax on stock and mutual companies, by influencing the distribution of the total tax burden between mutuals and stock companies.

interest rate was not originally intended to reconcile differences between a company's own earnings rate and its assumed rate, but rather to compensate for differences among companies with respect to rates assumed in computing reserves. The anomaly of the formula adopted is that the earnings rate is completely unrelated to insurance reserves. If, for example, a company's earnings rate increases from 4 to 4½ per cent and the reserve interest remains at 2.5 per cent, the interest deduction actually increases. This is because the 10:1 ratio never reduces the reserves proportionately as much as the earnings rate is increased.[16]

Income of Life Insurance Companies: Gain on Operations

While the tax on investment income should be appraised primarily from the standpoint of its incidence on policyholders, a tax on underwriting gains is more appropriately evaluated from the point of view of the corporation. The new law includes only a small part of such underwriting income in taxable income.[17] In general, "underwriting income" is determined by subtracting from net-operating gains (after policyholder dividends) the taxable investment income determined in the first step, described above. This is subject to special deductions for the so-called policyholders' surplus account.

Phase three includes in taxable income any part of the "policyholders' surplus" distributed to stockholders. Also, such surplus is taxed if it exceeds certain prescribed limits, or if the company no longer qualifies as a life insurance company for a specified period. This phase did not come into effect until 1959, and is not fully operative until 1961.

Substantially all the tax on underwriting income falls on the stock companies.[18] Taxable investment income of mutual companies generally exceeds their net-operating gains, after policyholders' dividends, leaving no taxable underwriting gain.

The Case for Taxing Underwriting Gains

Since 1921, underwriting profits of life insurance companies have been exempt from Federal-income tax. Prior to 1921, they were taxed as ordinary corporations. This treatment was abandoned, apparently because of the complex problems that arose in determining allowable dedeductions for additions to reserves. Until 1958, stock insurance companies thus enjoyed a unique position among all U.S. corporations operated for a profit.

The decision to broaden the tax base, by including underwriting gains, reflected significant changes taking place in the insurance industry. The rising importance of insurance involving little or no reserves greatly impaired the use of investment income as an equitable measure of taxable income. It was increasingly realized that complete dependence on investment income created inequities among companies writing different types of policies, and allowed many specialty companies to escape Federal income taxes entirely.

Between 1920 and 1957 ordinary life and endowment insurance contracts, involving the establishment of reserves

[16] The earnings-rate formula tends to favor mutual companies because their interest assumptions are generally lower than those of stock companies. In 1957, rates used by stock companies averaged 2.980 per cent, against an average mutual rate of 2.725 per cent. Individual company differences, of course, are much greater. *Senate hearings, 1959*, p. 185.

[17] Although referred to as underwriting gains, this figure includes savings on loading as well as free-investment income not subject to the step-one tax.

[18] Senate Finance Committee, *Report on Life Insurance Company Income Tax Act of 1959*, 86th Congress, 1st Session, Report No. 291, p. 12.

which are offset by assets which produce investment income, declined from 73 per cent of total insurance in force to approximately 57 per cent.[19] During the same period, term insurance increased from less than 4 per cent to over 33 per cent of the total.

Between 1945 and 1958, credit-life insurance, virtually unknown in 1920, jumped from $365 million to $21.5 billion.[20] Companies established to write this type of business are frequently affiliated with commercial credit firms. Many were attracted to this field by the unusual opportunity of earning substantially tax-free profits.[21] Because of low taxes and the high premium involved, profits on this type of business have been spectacular.

The underwriting profits on these various types of short-term contracts typically greatly exceed the return on the related investment. The taxation of these gains has been long overdue.

Because of substantial mortality gains and favorable interest margins in recent years, the rise in value of insurance company stock has been almost without parallel. For example, between 1948 and the end of 1957, the stock prices of 19 companies included in a recent survey rose more than ten-fold.[22]

Partial Taxation of Underwriting Gains

Although the decision to tax underwriting income marks an important forward step, stock companies are estimated to pay only $40 million in tax on their 1958 gains. This tax liability compares with their total gains of about $450 million before the tax.[23] Mutual companies are expected to have little or no taxable gains.

Two major weaknesses of the bill explain the inadequacy of the tax. First is the fact that only half the underwriting gains are included under phase two. Second is the special deduction equal to 10 per cent of the annual increase in reserves or 3 per cent of premiums on nonparticipating policies (other than group and annuity), whichever is higher. Such amounts are required to be placed in a so-called policyholders' surplus account.

The Treasury recommended initially that only half the underwriting gains be taxed currently, with tax on the balance deferred until distributed or accumulated beyond certain specified limits. According to the Treasury, the 50 per cent reduction "takes account of the point on which the life insurance industry has insisted that it is difficult, if not impossible, to establish with certainly the true net income of a life insurance company on an annual basis. This uncertainty is said to reflect the long-term nature of the contracts and the resulting need to retain what may temporarily appear as income in the current year as surplus or contingency reserves."[24] Despite the skepticism with which both tax committees appeared to accept this industry claim,[25] no attempt was made to stiffen the tax. The solid industry line was broken by only one company, whose spokesman viewed the protestations of the stock companies as

[19] *Senate hearings, 1959*, p. 63.

[20] *Life Insurance Fact Book, 1959*, p. 33.

[21] In 1957, ten representative companies paid Federal income taxes of $63,000 on earnings of $16.4 million, an average of .4 per cent. Testimony of Professor Roy Moor, *House hearings, 1958*, p. 295.

[22] The First Boston Corporation, *Data on Selected Life Insurance Stocks, 1958*.

[23] For 1958, stock companies reported an increase in special and unassigned surplus of $255 million and dividends to stockholders of $153 million. (Institute of Life Insurance, Letter of June 3, 1959). The $40 million tax liability is estimated in the Senate report on HR4245.

[24] Statement to Senate Finance Committee, *Senate hearings, 1959*, p. 24.

[25] The committee reports referred to the "alleged" and "stated" position of the industry in this respect.

"purely a self-seeking effort" that "should be rejected once and for all." [26]

The industry view conflicts with the high degree of predictability that lies at the heart of life insurance. The fundamental basis for this is well stated by Haughton Bell, vice president and general counsel of Mutual of New York: "There has been a vast amount of statistical material accumulated and tabulated on mortality and morbidity expectancy for every age, physical condition and occupation, and on other demands such as for loans and cash values. In actual experience, this material has proved so reliable that it fully supports the view that unless some major catastrophe not heretofore experienced in this country should befall . . . liabilities will be incurred only within very regular and predictable patterns." [27]

Moreover, short-term contracts permit considerable flexibility in the adjustment of rates to changing operating costs, investment yields and mortality experience. This is particularly true of specialty insurance companies, that have been realizing such substantial profits. It is significant in this connection that profits of stock casualty insurance companies are taxed in full. Since life insurance companies write more than 80 per cent of all health insurance in the United States, preferential treatment of their underwriting profits from this source would not appear to be justified.

Finally, problems of accounting are not peculiar to the life insurance business. All industrial companies have similar problems of pro-rating expenditures over their useful life, one of the most uncertain being the timing of depreciation allowances. Such irregularities tend to be compensated for by the use of net-operating-loss carryovers. In this respect, loss carrybacks would be peculiarly suited to life insurance companies.

Tax-free Additions to Surplus.

As indicated above, the new act also gives stock companies a special deduction equal to the greater of 10 per cent of their annual increase in reserves, or 3 per cent of premiums on non-participating policies. This allowance is intended to provide a "cushion" against the fixed premium margin on non-participating policies, comparable to the gross premium margin on policies of mutual companies.[28] This provision, which permits stock companies to accumulate, tax free, 10 per cent or more of their policy reserves, makes it possible for many companies to escape tax on their underwriting profits.

The unusual tax savings made possible by this provision do not appear to be warranted by the nature of the life insurance business. From a financial standpoint, probably its outstanding characteristics are the long-term nature of the contracts and the stability of the flow of funds. The policyholder has a relatively fixed commitment to pay premiums or default on his insurance policy. The liabilities of the insurer consist of fixed monetary obligations that are predictable and unaffected by changes in the value of money. Funds therefore flow into the insurance company with great regularity, and expenses tend to change slowly.

In the last 50 years there have been only two periods of abnormal demands on insurance companies: the "flu" epidemic of 1918 and the wave of policy loans and surrenders that occurred during the Great Depression. But even in these two periods, the inflow of funds was more than sufficient to offset the outgo. For example, in one of the worst years, 1933,

[26] E. J. Schmuck, Acacia Mutual Life Insurance Co., *House hearings, 1959*, p. 247.

[27] *House hearings, 1954*, p. 205.

[28] *House report, 1959*, p. 7.

the cash receipts of 45 large companies, representing 85 per cent of all insurance assets, were approximately double their cash disbursements for that year.[29] It is possible, of course, that some smaller, inadequately financed companies may find themselves in difficulties. For this reason, the new law provides a considerable measure of relief to small businesses.

Moreover, the mortality tables commonly used provide a built-in protection against adverse experience. The margin for protection is evidenced by the progressive reduction that has taken place in the death rate among policyholders, due to rising living standards and medical advances. In the 1930's, for example, the average death rate was 7.5 per 1,000 policyholders; by the 1950's, the average death rate declined to 6.1 per 1000, a reduction of about 19 per cent.[30] Further improvement in life expectancy should continue to improve the odds on the risks assumed by life insurance companies.

Surpluses are also essential as a protection against capital losses. Although it is impossible to judge the adequacy of company surpluses except by the test of past experience, decisions in this area tend to be more than adequately safeguarded, judged by Great Depression standards. At the end of 1957, capital and surplus for 39 mutual companies averaged 6.8 per cent of assets; for 59 stock companies the average was 17.5 per cent of assets; smaller stock companies averaged 23.9 per cent![31] Although write-downs in the value of corporate securities averaged about 5 per cent during the Great Depression, actual losses were in the neighborhood of only 2 per cent.[32] Moreover, temporary declines in the market value of securities do not affect the ability of life insurance companies to meet their long-term liabilities. Declines in the market value of government securities, for example, reflecting rising interest rates, are of significance only if a company is being liquidated. Yet, some companies claim as evidence of the need for large surpluses, temporary write-downs which are largely of a bookkeeping nature.

The Tax Upon Distribution

Phase three provides that any income distributed to stockholders in 1959 and later years, out of the so-called policyholders' surplus, shall be subject to income tax. This income is also taxed if it exceeds 15 per cent of reserves or 50 per cent of premiums, whichever is higher, provided it exceeds 25 per cent of 1958 reserves.

Such a tax on distributed earnings provides a powerful incentive to retain earnings. Even under present conditions, stock companies generally follow conservative dividend policies. For example, in 1957, only 4 of 21 selected stock companies distributed more than a third of their operating gains, after tax, and none distributed as much as half. The average distribution was 24 per cent.[33]

The limits established by the bill to "trigger-off" the tax on undue retentions are generously high, and only in exceptional cases are they likely to be effective.

Incidence of the Tax on Stock Companies

Stock companies have long maintained

[29] Sherwin C. Badger, "The Valuation of Assets," in *Investment of Life Insurance Funds*, University of Pennsylvania Press (1953). Cited by H. Bell, *House hearings, 1954*, p. 202.

[30] *Life Insurance Fact Book, 1960*, p. 56.

[31] *Senate hearings, 1959*, p. 185.

[32] See H. Bell, *op. cit.*, p. 277. According to Bell, "On the basis of very rough calculations, therefore, if the securities reserve established by the Commissioners is to absorb write-downs on defaulted issues and some others . . . it would seem to require, for *corporate bonds*, a maximum reserve of something above 3 per cent but less than 5 per cent." Similar data for mortgage loans are not available.

[33] First Boston Corp., *op. cit.*

that taxation of their profits would place them at a competitive disadvantage with mutual companies. This allegation cannot be supported in practice or theory. The profits of the insurance business, as in any business, represent the excess of income over costs. Stock companies must compete with mutual companies in the net cost of their contracts to the policyholder, after policy dividends. If they were not successfully competing in this respect, they would not have been able to realize the substantial gains they have earned in the past. A tax on net profits (or gains) would impinge only on the excess of revenue over policy costs, and not on the cost of insurance itself. The incidence of a tax on net underwriting gains therefore would be on the stockholder and not on the policyholder.

Cost differentials between policies of stock and mutual companies, are partly narrowed by the fact that mutual policyholders do not receive the benefit of all gains realized. This is because of earnings retained in surplus and contingency accounts, which are not currently distributed in dividends. Parity of tax treatment therefore dictates the taxation of gains (after dividends) realized by mutual companies, as well as profits of stock companies. Equality of treatment in this respect tends to preserve the competitive situation.

Proposed Tax Program

The major deficiencies of the Life Insurance Company Income Tax Act of 1959, outlined above, emphasize the need for an entirely new approach to the taxation of life insurance. A permanent program for the Federal taxation of life insurance and closely related types of income is suggested below. In summary, it includes:

1. Abandonment of the present free-investment income approach.

2. Assessment of a moderate, flat tax on net investment income allocable to policyholders, to be collected from the company.

3. Taxation of all net gains from operation of insurance companies, after dividends to policyholders, at corporate rates.

Taxation of Policyholders

As indicated above, the free-investment income approach is incorrect in principle and arbitrary in its application. It is erroneously based on the business income tax concept of a deduction for interest expense which in reality represents investment earnings of the members of a mutual company (in the case of mutual companies), not unlike the earnings of a mutual savings bank or building and loan association. In practice, the deduction has failed to reflect individual company experience, and has been based on industry-wide formulas that discriminate widely among companies. The concept of free-investment income incorporated in present law, based on average earnings (rather than interest costs) is only remotely related to experience.

More important, the corporation tax fails to reach policyholders at a rate appropriate to individuals, and in fact varies widely from company to company. As a result of this and their treatment elsewhere in the tax code, policyholders in general escape a fair share of Federal tax on their investment income.

A flat rate of tax assessed on net investment income, including earnings of pension reserves, would recognize the generally accepted fact that this is the only source of personal income generated by life insurance companies. Because this income almost wholly escapes Federal personal income tax, except for interest income reported by annuitants, it would be appropriate to impose a withholding

tax at a standard flat rate.[34] However, no attempt should be made to prorate the tax to individual policyholders. In the case of participating policies of both mutual and stock companies, the tax would reduce policy dividends. Stock companies could recoup the tax on nonparticipating policies through their premium-loading charges.

While the first bracket income-tax rate would be appropriate for this purpose, the tax could be imposed initially at a lower rate and gradually increased in time. A 20 per cent rate would raise about $525 million, at 1958 levels.

In consideration of its imposition as a withholding tax on policyholder income, provision could be made for a tax credit of an equivalent amount, when and if such income is later included in the personal-income tax returns of the insured and annuitants. Annuitants would be most concerned. Present law already provides a tax credit of 20 per cent on unearned incomes up to $2,400, which could be enlarged for this purpose.

[34] Imposition of a comparable tax on the net investment income of trusteed-pension funds would tap another rapidly growing source of income that now escapes current taxation. Employees are the sole beneficiaries of this income which, together with employer contributions, is not taxed until received upon retirement. At 1958 levels, a 20 per cent rate would produce an estimated $100 million revenue (gross).

Since investment earnings on noninsured pension funds are comparable to the earnings of insured pension funds, it is difficult to justify taxing one without the other. Discriminatory taxation of life insurance funds (together with State premium taxes and other factors) has placed insurance companies at a competitive disadvantage and helped contribute to a declining share of the business. In view of the growing importance of these earnings, which enjoy a preferred tax status, it would appear desirable to tax the net investment income of both insured and noninsured funds rather than to exempt it as present law does.

Taxation of Insurance Companies

Since the life insurance company typically retains substantial gains from operations, which benefit policyholders only incidentally, it would appear appropriate to tax fully such retained earnings as corporation profits. Such taxable income would include all gains not irrevocably set aside for the policyholders, and would, therefore, exclude any additions to policyholders' reserves. No distinction should be made among different types of business, including insurance, individual and group annuities, credit-life, health and welfare, and related businesses.

The proper measure of such taxable earnings would be "net gains from operations after dividends to policyholders," adjusted to insure comparability among insurance companies and conformity with established income-tax conventions. After appropriate adjustments, a tax of this sort should yield over $200 million annually, against the $40 million estimated revenues for 1958.

Full taxation of stock company underwriting profits is clearly dictated by the need to close more tightly this major gap in the Federal income-tax structure. Nothing in the nature of the insurance business or structure of the industry justifies continued preferential treatment of its earnings. The incidence of such tax would be on the stockholders, and stock companies would not be placed at a competitive disadvantage in the net cost of their insurance contracts. Comparable taxation of mutual companies' surplus not allocated to policyholders would further insure tax parity in this respect. Also, insurance companies would be brought into better alignment with casualty companies in the taxation of income on health insurance.

UPDATING LIFE INSURANCE SETTLEMENT OPTIONS
(A comparison with wills)

THEO P. OTJEN *and* ARTHUR J. PABST

The Northwestern Mutual Life Insurance Company

Both a man's will and his life insurance policy are instruments for estate conservation and estate distribution. When a man buys life insurance, he creates a special estate which he distributes at death through the use of beneficiary designations and settlement options. When a man makes a will, he provides for distribution upon his death, of whatever general estate he then has. In a sense, a will is a beneficiary designation and a settlement option for the general estate.

It is a matter of common knowledge to persons in the estate planning field that a man will devote a lifetime of energy to creating a business or an estate and spend no time at all or little time in arranging to pass along his estate at death. Even when a person has spent a little time planning his estate distribution, with the urging and assistance of his attorney, his life insurance agent, his financial advisors or his family, then he takes no heed of the passing of time and permits his distribution plans to become stale. If he did not keep up to date in relation to his business affairs, the business would go down grade. On the other hand most people do not keep their life insurance settlement options up to date, nor do they review their wills in order to keep them current. This is probably well expressed in Turgenev's *Fathers and Sons*:

> "Time, it is well known, sometimes flies like a bird, sometimes crawls like a worm; but man is wont to be particularly happy when he does not even notice whether it passes quickly or slowly."

There is a greater recognition that a person's plans for estate distribution should be kept up to date. This recognition is found both in the field of law and in the life insurance industry. The Canons of Ethics of the American Bar Association say: "A lawyer shall not solicit business."

However, the interpretations recognize the modern need for keeping up to date, and current application is that it is not improper for a lawyer to advise a client, whose will he has drawn, of changes, either in fact or law, which may defeat the testamentary purpose of the will. (*Legal Ethics*, Drinker, Pg. 254; ABA Committee on Professional Ethics, Opinion 210, June 1942.) There is a strong feeling that a regular client may expect that his lawyer will keep him properly informed, and that the attorney may advise one whose will he has drawn, to review it.

The life insurance industry, too, has become aware of the potential for harm in outdated or "stale" settlement option arrangements for life insurance proceeds. This potential arises either from initial defects or inadequacies, or from obsolescence. It is especially unfortunate when the extensive use of restricted terms of settlement result in disappointment and even hardship to payees who look to the

Note: The authors acknowledge the help of Charles M. Boehrer, B.B.A., M.B.A., Research Specialist, Northwestern Mutual Life Insurance Company.

proceeds of life insurance to take care of current needs. Insurance companies are aware of their obligation to carry out the settlement directed by the insured, even though the directions do not fit the current needs of the beneficiary.

Arising from the recognition that people neglect settlement provisions of their life insurance policies, it was thought appropriate to study wills which are probated, to see whether people also let wills get "stale."

Age of Wills at Death

A study was made, based upon all wills filed for probate in Milwaukee County, Wisconsin, over a six-month period from January 1 to June 30, 1955. Wills which were filed but never probated, were not included in the sample, which consisted of 773 wills.

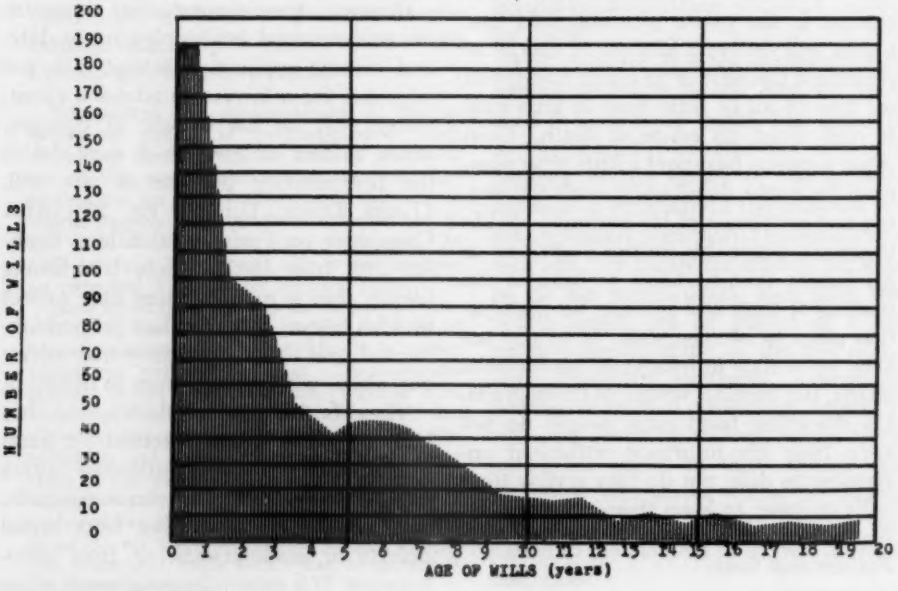
The first objective of the study was to determine how old wills were at the time of death. Illustration 1 shows graphically that the greatest number of wills fell into the less than one-year-old category, with a very rapid decline in numbers for the next four succeeding age categories. Of the 773 wills studied, 186 were less than one year old at the time of the testator's death; 102 were one to two years old; 90 were two to three years old; and 45 were four to five years old. Thereafter, the number of wills of each succeeding age gradually declined.

As shown in Illustration 2, 49 per cent

ILLUSTRATION 1

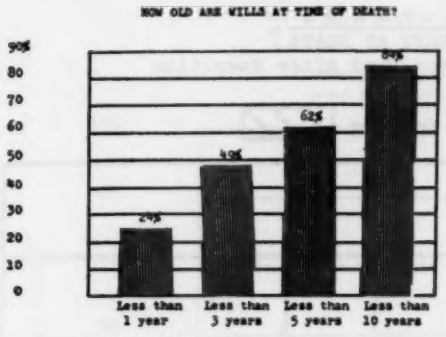
DISTRIBUTION SHOWING HOW OLD WILLS ARE AT DEATH

(from a study of 773 wills filed for Probate in Milwaukee County, Wisconsin, January 1 to June 30, 1955)



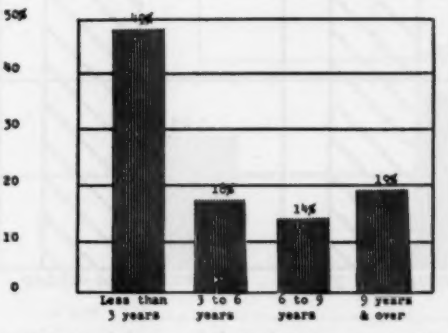
of all wills studied were less than three years old; 62 per cent of all wills were less than five years old; and 84 per cent fell within ten years.

ILLUSTRATION 2



The same information is presented in Illustration 3. Here the data are given in a noncumulative manner as an alternative way of comparison.

ILLUSTRATION 3



The median age of all wills was exactly three years. The modal will was less than one year old.

Age of Settlement Options

The foregoing gives a rather good picture of how soon wills are probated after execution. For purposes of comparison, consider how soon life insurance settlement options are used after being elected by an insured for a beneficiary. The following information on settlement options comes from a study made of all death claims of the Northwestern Mutual Life Insurance Company during January and February, 1955, where a settlement option became effective under an election made by the insured. This study represents 141 policyholders and 381 policies. Illustration 4 shows a comparison between the age of wills and the age of settlement options. (The option percentages are based on the number of policies. It is assumed that resulting percentages would be similar if the number of policyholders had been used.)

It is interesting to note that 68 per cent of wills were not more than five years old at death. Only 27 per cent of the settlement option forms were that current. Only 18 per cent of the wills were from six through ten years old, while 30 per cent of the settlement option forms were that old. Finally, for those eleven years and older, only 15 per cent of the wills were that aged, but 43 per cent of the settlement option forms were at least eleven years old.

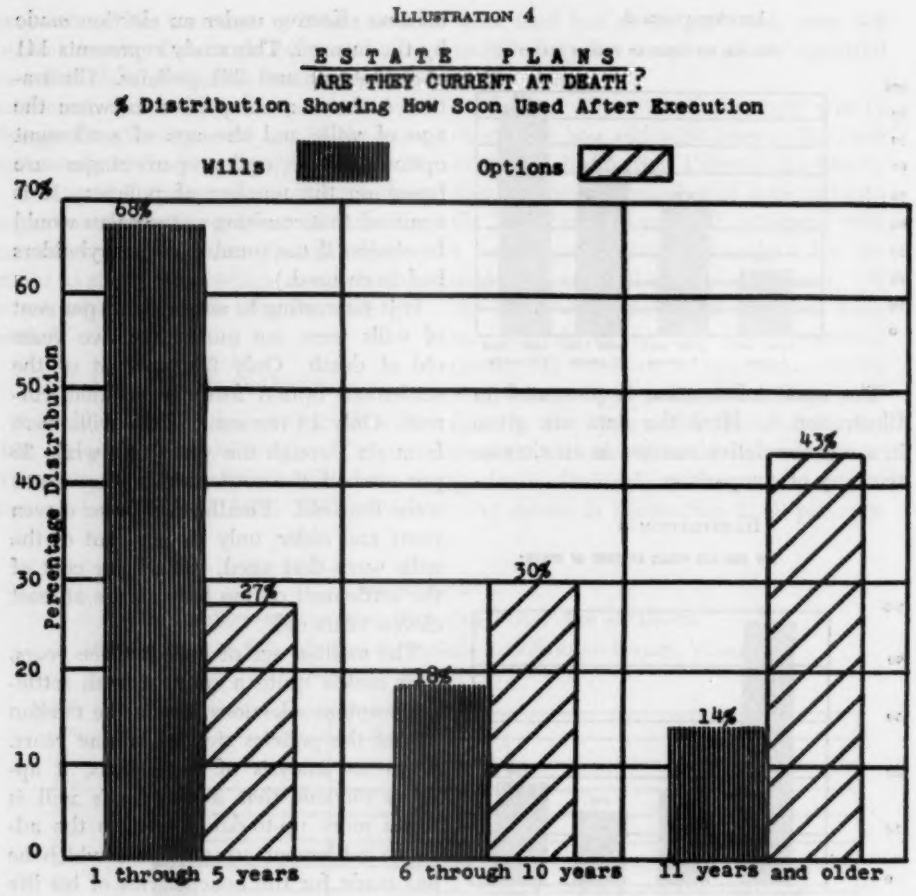
The median age of wills is three years. This makes quite a contrast with settlement option selections, where the median age of the policies studied is nine years. From an analysis of these facts, it appears obvious that a decedent's will is much more up-to-date than are the advance settlement arrangements which he has made for the beneficiaries of his life insurance.

Age of Testator and Option Selector

There are some other interesting observations that can be made when studying wills and settlement options. At what age are final wills executed?

Of the 773 wills studied, there were 14 which gave no evidence of age, so this information is based on 759 wills. Illustration 5 is a grouping of these 759 wills according to the number executed at each age. The median age at the time the testator made a will is 69. The age at which the greatest number of persons made their will, the modal age, is 72.

ILLUSTRATION 4



Most wills are made when the testator is at an advanced age. This is shown graphically in Illustration 6. Note that only 3 per cent of all wills were executed before age 45. Only 12 per cent were signed during the next ten years, from age 45 to age 55; while 20 per cent were executed between age 55 and age 65. The remaining 65 per cent of all wills were not written until after age 65.

An interesting comparison shows the age at which wills are made and the age at which life insurance is purchased (and presumably settlement options arranged). The life insurance figures shown in Illustration 7, reflect the total amount of insurance purchased by each age group in 1956, as reported in the *Life Insurance Fact Book* of 1959, published by the Institute of Life Insurance. This comparison shows that while only 3 per cent of all the wills studied were made before age 45, 88 per cent of all insurance has been purchased by that age. Thus it follows that while 97 per cent of all wills are made after age 45, only 12 per cent of the total life insurance coverage is purchased after that age. The conclusion is obvious that provisions made for a family by life insurance and those made by will, are made at very different periods during the life of a person. In this very difference, it be-

ILLUSTRATION 5

DISTRIBUTION SHOWING AT WHAT AGE WILLS ARE MADE

From a study of all Wills filed for Probate in Milwaukee County over a 6 month period from January 1 to June 30, 1955.

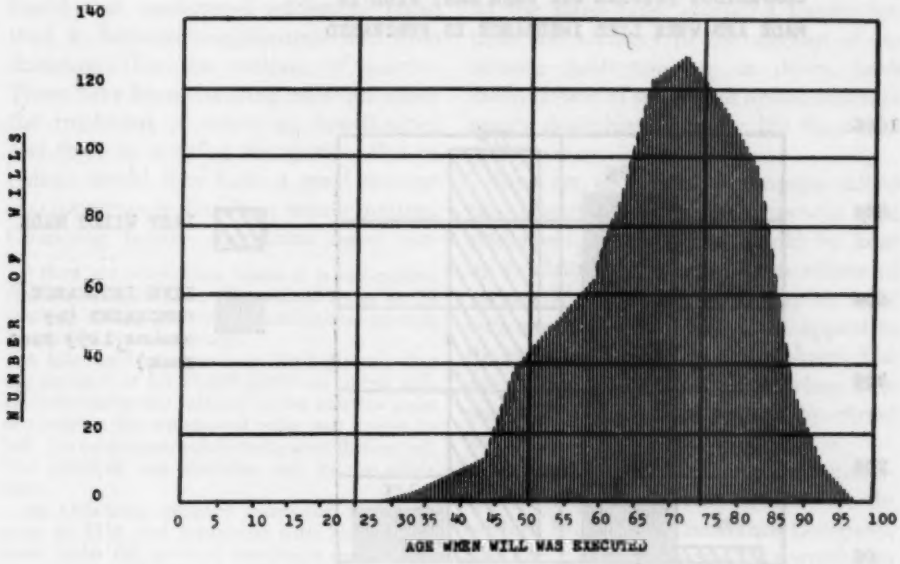
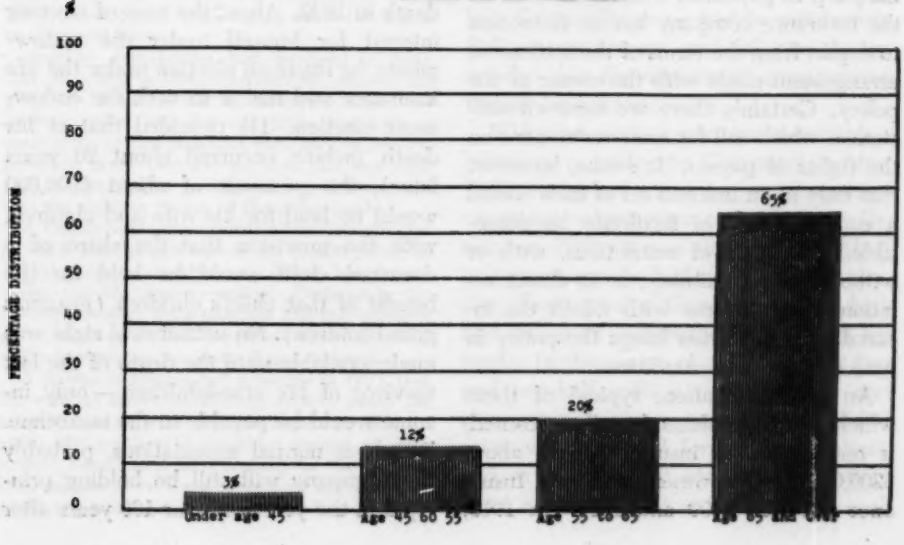


ILLUSTRATION 6

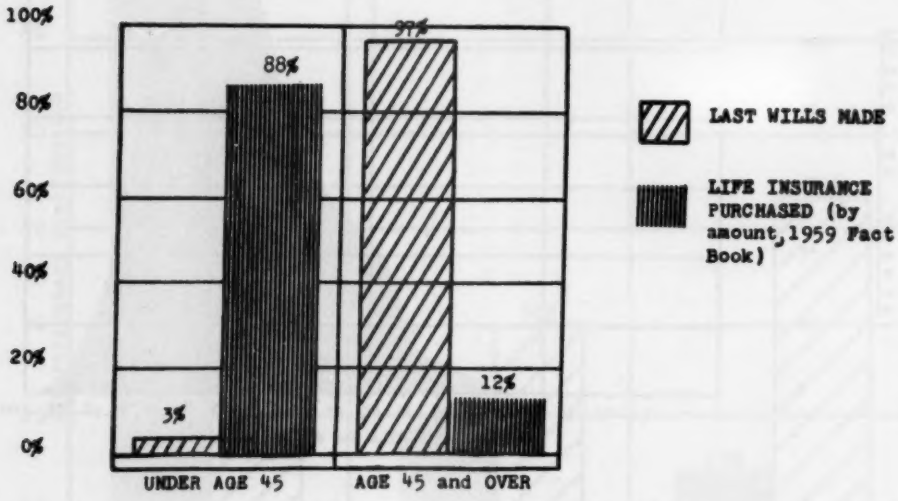
AT WHAT AGE ARE WILLS MADE?



comes evident that advance elections of settlement options can become out of date and "stale" when the time comes for the beneficiary to use the benefits.

ILLUSTRATION 7

COMPARISON BETWEEN AGE WHEN LAST WILL IS MADE AND WHEN LIFE INSURANCE IS PURCHASED



Keeping Options Up to Date

There can be disappointment and even hardship to payees in a situation wherein the insurance company has no discretion to depart from the terms of the settlement arrangement made with the owner of the policy. Certainly there are some circumstances which call for some restrictions on the rights of payees. It seems, however, that only in an unusual set of facts would a complete lack of flexibility be defensible. The value of restrictions, with or without some flexibility, is in direct relation to the degree with which the insured or policyowner keeps the policy in tune with current conditions.

An actual situation, typical of those which cause problems for all concerned, is one where an insured bought about $200,000 of Endowment and Life Insurance between 1890 and 1914. In 1918, about $25,000 matured as an Endowment payable to him. He elected to receive interest and did so for 21 years, until his death in 1939. About the time of electing interest for himself under the endowments, he made an election under the life insurance and tied it in with the endowment election. He provided that at his death (which occurred about 20 years later), the proceeds of about $200,000 would be held for his wife and children, with the provision that the share of a deceased child would be held for the benefit of that child's children (insured's grandchildren). No withdrawal right was made available until the death of the last survivor of his grandchildren — only income would be payable in the meantime. Based on normal expectations, probably the Company will still be holding principal in the year 2018—or 100 years after

the Company began paying interest under the endowments. Finally, the capital will be distributed to legatees under trusts created in the Insured's will.[1]

Out of varied experiences it has been found that unchanged settlement terms tend to become inappropriate and even dangerous for the welfare of payees. There have been changing concepts about the treatment of wives as beneficiaries and there is growing recognition that in today's world they have a good amount of competence in handling money matters. Changing family conditions have outmoded many settlements. There has been the very important problem of the decreasing value of money and the consequent need for flexibility. In particular, inflexibility is giving way to flexibility. At the same time, changing family fortune and changes in the amount of insurance protection, up or down, have made review of settlement option arrangements desirable for many life insurance policyowners.

How can an insurance company call to the attention of its policyowners that settlement arrangements should be kept up to date? There have been efforts of various kinds and none seems to meet with much response unless the appeal to the policyowner can be personalized. The use of premium notice stuffers brings little reaction. Individual attention by direct letter brings excellent response.

Recognizing that a personal communication does bring results, the Northwestern Mutual Life Insurance Company, over the past thirty years, has written to policyholders in many cases where the policyowner's insurance has been reduced by application of the paid-up insurance provision, upon default in premium payment. This was a very modest program, but the results were highly satisfactory. Policyowners were grateful for the reminder that the settlement arrangements should be redone.

With that modest program of individual letters as a guide, the Company, in May, 1956, embarked on a larger educational campaign which was completed in December, 1959. It was directed toward all policyowners who had made advance election of restricted settlement options which had remained undisturbed for at least ten years. In the course of checking over two and one-half million register cards and supporting basic records, about 75,000 cases were selected for further analysis, and, as an end result, almost 40,000 letters were written to policyowners. Each case

[1] Here are other cases where it is self-evident that a settlement under the original terms would result in disappointment, misunderstanding and, sometimes, even hardship:

A Missouri businessman, in 1944, directed that the proceeds of his $3,000 policy be settled with his wife under the interest option and the right of receiving the withdrawal value was denied to her. No contingent beneficiaries were designated. The principal was available only to the wife's estate.

An Oklahoma attorney instructed the Company in 1938 that settlement with his wife be made under the specified installment option with payments of only $10 monthly and without the privilege of surrender and withdrawal.

A Georgia policyholder in 1932 chose to provide that settlement of his $1,000 policy be made with his wife as direct beneficiary or with his son as contingent beneficiary, under the interest option with the sole right of transferring to the life income option. Such a plan could result only in disappointment.

Another policyholder had arranged in 1943, that his wife, as direct beneficiary, receive the proceeds of his $3,000 of insurance under the interest option and she was given the right to participate in the principal sum only in the improbable event that she survived the four children designated as contingent beneficiaries and also the children of any of them deceased.

A Pennsylvania manufacturer formally directed in 1924 that the proceeds of his $1,000 policy be settled with a daughter as direct beneficiary, under the life income option. Fortunately the Insured revoked the settlement and the proceeds go in one sum to that daughter instead of under a life income for an insignificant amount.

A dentist in Illinois had arranged in 1937, that his wife, as direct beneficiary, receive under the interest option, with the privilege, but only in event she survived a daughter named as contingent beneficiary, of changing to the life income option. Here was a settlement which simply would not work out to the payee's benefit.

received individual treatment. There was no criticism of any settlement selection and the inquiry was limited to whether the settlement, in the opinion of the owner, met today's needs. This approach reflected the belief that only the owner possesses the complete knowledge of facts required for the planning of his estate. The assistance of the Home Office and the agent was offered and generally accepted.

The response exceeded expectations. The reply percentage was near 30 per cent and on a volume which should continue to mount for the next year or two. The average elapsed time between the letter of inquiry and a reply from the owner, represents a period of from six to twelve months. Most interesting, in the matter of the changes which were completed, is the outstanding fact that almost 50 per cent of the owners who replied, not only cancelled their restrictive plans but, by refraining from electing a substitute option plan, left the way open for the payees to exercise their own judgment, founded on the facts which will be in existence at the time the policies become payable.[2] About four per cent have changed to another option plan which they considered better adapted to current needs and conditions. Approximately five per cent changed their designation of payees without seriously disturbing the original settlement plan. Accurate records of each case are maintained, and in the event of a later protest by the payees about a restricted settlement, it can be pointed out that the insured had been alerted to the need for a review, but had not responded.

The response in terms of human qualities was particularly gratifying. There were many hundreds of expressions of grateful appreciation, not only from owners of policies but also from attorneys, trust officers and other advisors.

[2] Of 10,018 replies to date, 4,813 cancelled the existing settlement option and did not select another one.

The standout fact of the entire experience was the urgent need for regular checking of restricted plans against present facts, and too, the great importance of flexibility. Good programming does not stop with an endorsement (or even with a decision not to endorse). In fact, a restrictive endorsement may be said to require a review at intervals—two years is sometimes suggested—to determine its continued suitability. The following are some suggested points for checking in a review:

(1) Designations of Payees—Still appropriate? All alive? What about children born since designation was made? Provision for children to receive the share of a parent? Other additional payees? Are all policies included?

(2) Settlement Options—Still appropriate? Have basic financial requirements changed? More flexibility needed? Less flexibility? What about debts, other "clean-up" problems, creditor assignments? Enough funds available? Educational needs, effect of Social Security, other income and estate factors—have these changed? State of health, advancing age—do these suggest some consideration? What about rights and rates under various policies?

(3) Other Areas—In the larger cases, what about tax problems? The marital deduction? Trust service? Ownership? Any endowments maturing in the near future?

Although only the owner has the answers to the fundamental questions, the experience and training of agents and other estate advisors is usually most helpful in areas where the average owner flounders.

It would be seriously misleading if any of the foregoing were regarded as a blanket indictment of restricted plans. Most life insurance for families is intended to replace income, at least in the early

years. It follows that the way to determine life insurance needs is to project family needs over a period of time. To meet these projected needs, life insurance death benefits are then arranged to spread over the necessary periods. The life insurance policy is the most useful family-type financial investment devised, and the settlement option features are the most telling expression of its permanent value for families. They combine characteristics of a will and a trust but they are based on guarantees that neither of those other instruments could, by its very nature, provide. The need of some people for a restrictive settlement may be obvious; the advantage of flexibility may be important to another family. What may be a modest amount of life insurance for one family may be a sizable amount for another. The emphasis, however, should be on keeping settlement arrangements up to date. It is unfortunate that frequently, through inattention, these life insurance arrangements, as compared to wills, suffer to the point where they no longer retain their initial efficiency.

TABULATION SHEET OF DATA USED

1. Source: All wills filed for probate in Milwaukee County from January 1 to June 30, 1955.
2. Number of Wills: 773.
3. Number of Wills where age at time of execution could be determined: 759.
4. Wills grouped by years of duration:

YEARS OLD	*NO. OF WILLS*	*YEARS OLD*	*NO. OF WILLS*
Less than 1 year	186	12 to 13 years	9
1 to 2 years	102	13 to 14 years	12
2 to 3 years	90	14 to 15 years	8
3 to 4 years	54	15 to 16 years	11
4 to 5 years	45	16 to 17 years	7
5 to 6 years	46	17 to 18 years	8
6 to 7 years	45	18 to 19 years	6
7 to 8 years	38	19 to 20 years	7
8 to 9 years	27	20 – 25 years	14
9 to 10 years	17	25 – 30 years	3
10 to 11 years	16	30 – 35 years	3
11 to 12 years	18	35 – 40 years	1

5. Mean (average) age of Wills at death: *5.3 years*
6. Median age of Wills at death: *3.0 years*
7. Wills grouped according to age of testator:

AGE	*NO. OF WILLS*	*AGE*	*NO. OF WILLS*
20 to 24 incl.	1	60 to 64 incl.	91
25 to 29 incl.	0	65 to 69 incl.	125
30 to 34 incl.	2	70 to 74 incl.	132
35 to 39 incl.	8	75 to 79 incl.	115
40 to 44 incl.	13	80 to 84 incl.	73
45 to 49 incl.	38	85 to 89 incl.	36
50 to 54 incl.	50	90 to 94 incl.	11
55 to 59 incl.	63	95 to 99 incl.	1

8. Mean (average) age of testator at time Will was made: *Age 68*
9. Median age of testator at time Will was made: *Age 69*
10. Greatest number of Wills executed at: *Age 72*

INSURANCE, AUTOMATION, AND THE INDIVIDUAL EMPLOYEE

WESLEY S. BAGBY

Pacific Mutual Life Insurance Company

Much has been written and said about the effects of automation on the individual employee. A great deal has been speculation. And most of the speculation has had a gloomy ring to it. In the area of office work particularly has the bell tolled morosely. Electronic data processing (EDP) in the clerical field is a recent, swiftly growing development. Because of its newness, misconceptions have sprung up around it. Fears have been aired that long-faithful employees would be eased out of jobs; that a so-called push button operation would call for lower human skills than those it replaced; that EDP would reduce the total clerical labor force.

These fears have received wide circulation. But, as five years of observation at Pacific Mutual Life Insurance Company have proved, they are entirely unjustified by the facts. The experience of this Los Angeles based organization is of paramount importance to the insurance industry.

Their heavy volume of clerical operations puts insurance companies and the utilities in the best position to benefit from general purpose electronic systems. These systems, in fact, were created especially for their kind of work. Insurance management has sharpened its focus on electronics and is spending millions on data processing computers. Energy and money have been invested with the firm belief that administrative costs must be reduced if competitive positions are to be maintained.

In addition, however, insurance management has come to realize the vast improvements computers make possible in service to policyowners.

Perhaps most important of all, with EDP, management has available as a by-product accurate, timely, and complete information about its operations. This, it has found, helps provide a basis for improved policy decisions.

The present acute shortage of clerical workers is another factor that has accelerated the use of electronics in business. Twenty years ago in the United States there were only five million clerical workers. Six years ago there were eight million, and now there are well over nine million. As industry has become more complex, it has required an increasing proportion of white to blue collar labor. Today there are more than sixteen clerical workers for every one hundred production workers, compared with ten or eleven, sixteen years ago. Yet, in spite of this recent increase in the number of clerical workers, almost all employers are hunting desperately for more. There are currently in the nation, openings for from 500,000 to perhaps as many as one million additional office workers.

It appears to be impossible to provide all the clerical help needed for the nation's expanding economy without major changes in the nature of office work. These changes will occur primarily through greater use of automatic equipment.

Pacific Mutual Life Insurance Company has been a pioneer in the field of office automation. It was the first private enter-

prise in the West to install a large scale electronic data processing system. It was also the first to plan to cut across departmental lines and to combine its operations into a single system for maximum efficiency and economy.

A medium sized company, Pacific Mutual has about $2¾ billion of life insurance in force. Its assets are just under $600 million and it pays approximately $75 million in benefits to policyholders and their beneficiaries each year. The company operates nationally through more than 150 offices throughout the United States.

In August, 1955, the company began installation of its first $2,000,000 Remington Rand Univac computer. This machine was later replaced by a faster, still more advanced model. The Univacs were expected to take over the work of at least 150 of the 900 people in Pacific Mutual's national headquarters.

Today this system handles all the billing, accounting, and record-keeping of the company's 350,000 individual life insurance policies. This year, Pacific Mutual is converting the billing and accounting of its nearly 23,000 mortgage loans. A special team is now organizing the transfer of much of the company's group insurance work to electronic records.

Yet not one employee has lost—or is expected to lose—his job because of the company's switch to EDP. And pay scales are soaring to record heights.

Before the decision was made to go ahead with an electronic data processing system, intensive studies were conducted to determine its economic feasibility. Each employee was asked to record fully his daily activity for 30 days.

This study, as well as helping to underline probable economic advantages, allowed the company to pinpoint changes that would occur in personnel assignments far ahead of the time they actually took place.

The Displaced Worker

The figures showed concretely how seven departments would be affected. One department of 122 would be able, with the help of EDP, to function with 37 people. Some smaller departments would be reduced by from one-third to three-fourths. In all, 15 per cent of the company's home office work force would be replaced by electronics.

Pacific Mutual immediately began a comprehensive program designed to tell its employees about EDP and what it would mean to them. Keeping morale high and encouraging its people to take part in the program took away much of their fear and uneasiness.

Each employee was assured that, even if his job were eliminated, he himself would not be sacrificed on the altar of electronic efficiency. Each one whose job was to be affected, was personally told that he would be retained and relocated in a suitable, perhaps even more desirable, post at no reduction in salary.

Three kinds of jobs were directly affected by the new electronic operations: unskilled clerical; relatively routine tasks handled by long-time employees; and supervisory. The jobs had one thing in common: their monotony. This repetitive, heavy-volume work lent itself best to electronic methods.

By far the largest group involved was composed of one hundred or more junior clerical people. Theirs were the pick and shovel jobs of the office—filing, posting, sorting, and recording. Theirs were also the jobs with the heaviest turnover. Pacific Mutual had little problem relocating these juniors in comparable positions that remained unaffected by electronics. And the jobs to which they were transferred required more judgment, thus offering greater opportunity.

The second class consisted of approximately twenty people with more experi-

ence. Many of these had years of seniority but were involved in routine jobs that required only a limited knowledge of insurance. Understandably, many of these people were somewhat inflexible and there were few openings in comparable positions for them. Since the company had decided to move cautiously toward complete dependency on electronics, it had two years in which to re-assign these employees. This was done by giving them first consideration for top clerical posts in unaffected areas. Although a good deal of retraining was necessary, satisfactory placements were found for all.

The third class was made up of approximately twenty people in supervisory and senior staff positions. These were more highly skilled employees, whose duties required judgment and leadership. They were more flexible, had a more advanced knowledge of insurance and were more readily adaptable to new situations. They were quickly absorbed into other areas of the company.

New Jobs

But the new system did not merely replace job stations. It also created new ones.

In every case possible, the new positions were filled from within, and a particular effort was made to use people from those departments that most strongly felt the impact of the change. Pacific Mutual believed that allowing its clerical employees to apply for upgraded jobs would make them happier and the staff more effective. This principle was applied with the knowledge that most successful electronic installations in the nation had been staffed primarily from within. It proved successful in Pacific Mutual's case as well.

The electronic staff itself is made up of 65 people. These newly created jobs break down into four types: clerical; programming and methods; operations; and maintenance.

Thirteen clerical people translated data for machine use. Most of these are experienced typists who require no special training, but whose accuracy and speed had to be superior.

The operations staff is made up of eight men, who run the equipment on a three-shift basis. Operators are concerned primarily with getting the work done and are more interested in the system's production than in its philosophy.

It is difficult to pinpoint the special skills needed by a good operator. The chief operator is usually an engineer or mathematics graduate, with experience in a special kind of machine system. The rest of his staff are mechanically adept production men, who require about six months of formal and on-the-job training. Although no definite correlation exists between able punch card machine operators and computer system operators, three at Pacific Mutual were top grade tabulating men.

Preventive maintenance work on the company's computer requires a staff of nine men on a three-shift basis. Unlike most electronic systems users, who depend on the manufacturer for engineering maintenance, Pacific Mutual has its own staff for this work, headed by a graduate engineer. His staff is made up of senior technicians and trainees. Turnover of graduate engineers doing maintenance work on electronic systems is very high. But Pacific Mutual has found that top-flight technicians who have had some engineering training work out well.

Computer programming and methods analysis opened a wide range of new job areas when the Univac was installed. Senior positions in programming and methods work for electronic systems are demanding but well paid. It is one high level area in business open to qualified women.

The programmer's function is to analyze the details of each job to be per-

formed by the machine. He then prepares coded instructions that enable the machine to complete the job in the fastest possible time. A good programmer must have many special skills. He must have an inquiring, logical mind. A background of systems analysis and a knowledge of statistical principles is desirable. College level work in mathematics or business administration is helpful—some say essential.

At Pacific Mutual, thirty-one people handle various grades of programming and analysis work. Almost two-thirds of the original crew were transferred from within the company. Three months of classroom training in programming techniques and from six to twelve months of actual work experience were needed before they became proficient.

The Clerical Staff

What has been the effect of electronic work on Pacific Mutual's headquarters clerical staff and their salaries? Five years ago the company had 902 employees and 35 vacancies it was trying to fill. As of July 1, 1960, the company had 986 employees, including the 65 in new electronic jobs. It had 22 openings. However, had Pacific Mutual not turned to electronics, it would need today a staff of perhaps 1,175 to handle its present volume of work. Its turnover problem would be grave, its current efficiency impaired.

Payroll Changes

Although the company's total clerical staff has not changed substantially over the past five years, there has been a distinct shift in its payroll. In five years, the average non-executive salary has increased 40 per cent. This is somewhat ahead of the general average and it has occurred because Pacific Mutual jobs have been upgraded through automation. The most vivid example of job upgrading occurred in the programming and methods area, for which jobs the entire home office staff was allowed to test to see if they were qualified. Fourteen of the men on the original crew in this work were transferred from within the company. They had been employed with Pacific Mutual an average of 6½ years. When they had been in electronics work only an average of 1½ years, their salaries were more than 40 per cent higher than before transfer. Six of the eight women in the programming work had been with the company less than a year. The other two had much longer service. But when they had been in the electronics work for just a year, the salaries of all eight had been increased more than 50 per cent. With a single exception, of course, women were transferred from lower jobs than the men. But normal increases for these people over the same period of time in their old jobs, would have averaged around 12 per cent.

The Electronic Records Department

The experiences of Pacific Mutual in organizing its Electronic Records Department make an interesting case study in employee evaluation. This department was started from scratch, and afforded one of the first opportunities for an objective means of evaluating employee qualifications. It taught the company some amazing things. Because its basic application of EDP was to consolidate operations, the company's approach was considerably more complex than the single function applications adopted by many other electronic users. Pacific Mutual employed some people whom its managers considered extremely well qualified for the new work. Many of these proved unable to pass the most basic tests. Others, who apparently had been content to work as messengers and file clerks for long periods, were found to have the mental resources needed for these highly skilled jobs.

The staff of this new department was molded from at least ten divisions of the

company, strictly on the basis of merit and qualifications. As this heterogeneous group started to work together, it developed unusual spirit. Their high morale had a great deal to do with the successful accomplishment of what was really a gargantuan task.

In a word, Pacific Mutual learned quickly that people with diverse business backgrounds can work together very effectively when they have a common purpose. The company also learned that it had been wasting the hidden talents of several employees by not earlier discovering and utilizing their aptitudes.

Benefits of EDP

What has Pacific Mutual's electronic installation done to pay its way? It has enabled the company to handle a much heavier work load with only a slight increase in staff. In the past five years, the Home Office staff increased from 902 to 986 employees, but many activities previously carried out in the field, including all premium collections, were transferred to the Home Office. Field personnel other than sales people showed a decrease in the period, from 531 to 524. The Company's total administrative personnel increased by 77 persons, or 5.4 per cent. To get an indication of the increased work load, premium income is 40 per cent greater than it was five years ago.

In addition to these tangible benefits, the electronic installation has enabled Pacific Mutual to utilize more fully the skills of its employees, by upgrading job content throughout its entire national headquarters. This has led to reduced turnover. It has allowed the company to provide its policyowners and representatives better service, because all its records are brought up to date on a daily basis. This process enables Pacific Mutual to extract rapidly much more information about any single policy than before. It has allowed the company to offer improved merchandise to its customers. The machine's easy, rapid handling of what would otherwise be complicated accounting distributions, permits combining various coverages in one policy for a family's specific needs.

This is the experience of one company. But it is quite typical of the country as a whole. Only five and a half years ago, slightly more than 600 electronic data processing systems had been installed throughout the country. About seventy were large scale installations costing more than $500,000 each or renting for $20,000 or more monthly. Approximately 500 were medium sized computers that cost from $50,000 to $500,000 or rented from $2,000 to $10,000 monthly. The remaining 50 were small computers, which were just then getting started. These cost a little less than $50,000 or rented for about $1,000 monthly.

That was at the start of 1955. In mid-1960 there had been installed 460 large scale, 2,700 medium scale, and 1,575 small scale systems: more than 7½ times the number of systems in business use as there were in early 1955. This serves to demonstrate the rapid rate at which electronic methods have been introduced to United States business.

What effect has automation had on the size of the nation's clerical work force? Since 1940, the ratio of office to factory workers has increased 50 per cent. There has been a 60 per cent increase in the number of clerical workers. In July, 1959, there were 9,342,000 persons in the United States occupying white-collar jobs, according to the Labor Department—a 1.7 per cent increase over the preceding year. Yet, this rise occurred during the year when electronic installations had their greatest growth.

What about the future? The Bureau of Census forecasts a population of 193,000,000 in the United States by 1965. The American people will certainly want

to increase their living standards at not less than the same rate at which these standards have risen in recent years. To do this, a 40 per cent rise in United States output will be needed. But the estimated increase in our total labor force by 1965 will only be 13.6 per cent. By 1965 there will be actually fewer persons in the productive 25 to 40 age group than at present. This means that the nation must continue to utilize to the utmost every sector of its working population, and to develop fully electronic aids to improved productivity.

Even if this is done, employers will have to search harder to find qualified help. It is certain that continued automation will bring a further degree of professionalism and a higher degree of job satisfaction to the individual employee.

Experiences of other insurance companies, as they place people in jobs involving office automation, should be very similar to those of Pacific Mutual. They will very probably find that the most challenging aspect of electronic methods will be human, not mechanical: the decrease in routine tasks; the new skills needed for the upgraded jobs created; the growing importance of analysis, organization and planning; and full utilization of a tight labor force. There will be fewer people doing things that machines can do and more people doing things that only people can do.

To the individual employee, as well as to his company, the gains seem almost limitless.

THE A, B, C's OF LIFE INSURANCE RATE AND RESERVE COMPUTATION

JAMES J. CHASTAIN

Omaha University

The traditional method of teaching the subject of life insurance rate and reserve computation begins with a study of mortality table construction. It proceeds to an examination of present values and annuities due. At a relatively early point, the student is faced with a problem of this nature: $7{,}340 \times \$1{,}000 \times .975610/852{,}544$. Undaunted students are then informed that, by solving a series of sixty or more problems of this kind, the net level premium can be determined for a typical whole life policy. It is small wonder, under these circumstances, that the mathematical basis of life insurance remains a mystery to most non-actuarial students.

Many actuarial problems, such as expense allocation, dividend apportionment, and selection problems, need not be mastered by the general student of life insurance. It is important though for the non-actuarial insurance student to understand the theoretical basis of life insurance. If the college course in life insurance is to be more than an applied marketing course, the student must master the theoretical basis of his subject. The life insurance company employee should learn the theoretical basis of the product with which he works, to gain insight into his industry.

Several devices are used to bring rate and reserve computational problems within reason for the non-actuarial life insurance student. One solution is to compute rates and reserves only for term policies of short duration. Sometimes whole life rates are computed for an insured at a very advanced age. A third possibility is to require the student to do no computation but merely to show the figures which would be used in the first and last parts of each series of problems. All of these devices are useful, but each one suffers from obvious shortcomings.

It is the purpose of this paper to illustrate a fourth simplifying device for teaching rate and reserve computation. This method offers the advantage of minimizing computational work. It is readily adaptable to any type of life insurance policy or annuity. It allows the assignment of problems which may be worked and checked by students, on their own. Perhaps the most important advantage is in giving students an awareness of the unity between rate and reserve computations. The device has been used by the author in beginning life insurance classes, for a number of years.

This method is analogous in many ways to the accepted practice in teaching accounting, by presenting the complete accounting cycle in the first three or four chapters of the text. After the total accounting cycle is introduced through a simple model, more realistic problems are easier to understand. In the same way, if steps A and B below are mastered, it becomes easy to make the transition, in

Step C, to an actual mortality table.

Step A—Mortality Only

Assume the following facts:

1. Each of a group of 30 men of equal age and equally good health purchases a $1,000 life insurance policy.
2. All premiums are paid at the beginning of the year.
3. All death claims are paid at the end of the year.
4. It is not possible to tell which men will die in any given year but it is certain that the men will die as indicated in Table 1.
5. Interest and expense factors are not to be considered.

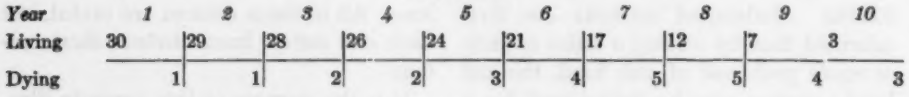
TABLE 1 [1]

Year	*Number Living Beginning*	*Number Dying in Year*
1	30	1
2	29	1
3	28	2
4	26	2
5	24	3
6	21	4
7	17	5
8	12	5
9	7	4
10	3	3

[1] This table which can easily be altered from year to year has been dubbed by the author's students, as Chastain's Strictly Absurd (CSA) table.

It is sometimes helpful for students to visualize the time element by the use of a diagram as in Figure 1.

FIGURE 1



Premium rates for any kind of insurance or annuity policy may be computed using these figures. For example:

1. One year term policy in year 1. $1,000/30
2. One year term policy in year 2. $1,000/29
3. One year term policy in year 3. $2,000/28
4. Three year level premium term policy issued in year 1. $4,000/87 (Total of 30, 29, 28)
5. Ordinary Life Policy $30,000/197 (Total living beginning of each year)
6. Five Payment Life Policy $30,000/137 (Total living beginning first five years)
7. Five Year Endowment $30,000/137

It is important for students to see why premiums for limited payment and endowment policies are the same when using the assumptions of Step A.

This step A presents the essence of life insurance rate computation. Whatever the type of policy involved, computing the net level premium is merely a matter of determining what benefits are to be paid and dividing this amount by the total number of premiums to be received.

Table 2 shows the retrospective reserve computation for an ordinary life policy, using the assumptions of Step A. The $153 rate is the computed premium in example No. 5 above, rounded to the next higher even dollar. Other rate illustrations in this paper are similarly rounded to the next higher even dollar.

TABLE 2

Year	(1) *Living Beginning of Year*	(2) *Total Prems. Collected* $153 \times (1)$	(3) *Reserve from Previous Period*	(4) *Current Premium Plus Reserve* $(2)+(3)$	(5) *Interest None*	(6) *Reserve Plus Interest* $(4)+(5)$	(7) *Death Claims for Year*	(8) *Reserve at End of Year* $(6)-(7)$	(9) *Living at End of Year*	(10) *Individual Policy Reserve* $(8)+(9)$
1	30	4,590	—	4,590		4,590	1,000	3,590	29	124
2	29	4,437	3,590	8,027		8,027	1,000	7,027	28	251
3	28	4,284	7,027	11,311		11,311	2,000	9,311	26	358
4	26	3,978	9,311	13,289		13,289	2,000	11,289	24	470
5	24	3,672	11,289	14,961		14,961	3,000	11,961	21	570
6	21	3,213	11,961	15,174		15,174	4,000	11,174	17	657
7	17	2,601	11,174	13,775		13,775	5,000	8,775	12	731
8	12	1,836	8,775	10,611		10,611	5,000	5,611	7	830
9	7	1,071	5,611	6,682		6,682	4,000	2,682	3	894
10	3	459	2,682	3,141		3,141	3,000	141 [2]	0	
Total		30,141					30,000			

[2] Where premiums are rounded to the next higher even dollar, a small reserve residue will always exist.

In order to establish clearly the unity between the mathematics of rating and of reserves, it is important for students to work with both types of problems simultaneously, and from the beginning.

Step B—Mortality and Interest

In Step B, all assumptions are as in Step A, except an interest rate of 4 per cent and a simplified table of present values, as indicated in Table 3, are assumed.

TABLE 3

Year	*Present Value*	*Year*	*Present Value*
1	.96	6	.79
2	.92	7	.76
3	.89	8	.73
4	.85	9	.70
5	.82	10	.68

Since death claims are not paid immediately, it is evident that the number of dollars set aside today need not be equal to the full amount of the future death claims. Since death claims are to be paid at the end of the year, first year claims are discounted one year, second year claims for two years, etc. In the same way, since all premiums are not paid at the beginning of the first year, it is necessary to discount the premiums to be received at the beginning of the second and succeeding years. For example, the 29 premiums to be received one year hence (at the beginning of the second year) are worth only 27.84 ($29 \times .96$) premiums today. Discounting of future claims and premiums for an ordinary life policy may be illustrated as in Figure 2.

The top half of the illustration shows the present value of the number of premiums collected at the beginning of each year, discounted for the appropriate number of years. The bottom half shows the discounted value of all $1,000 death claims paid at the end of each year.

Thus, $23,270 would need to be collected at the beginning of the first year, and invested at 4 per cent, in order to have sufficient funds to pay death claims as they are assumed to occur. A total of 197 premiums would be paid over the ten year period but the present value of these premiums is 174.12[3] premiums. The net level premium for an ordinary life policy at the beginning of the first year is $134. ($23,270 \div 174.12$). The net level premium for a five payment life policy

[3] Most textbook authors think of this as a dollar figure (life annuity due of $1. per year) but this is an unnecessary complication. Present values are as applicable to units of oranges, or units of numbers of premiums, as to dollars.

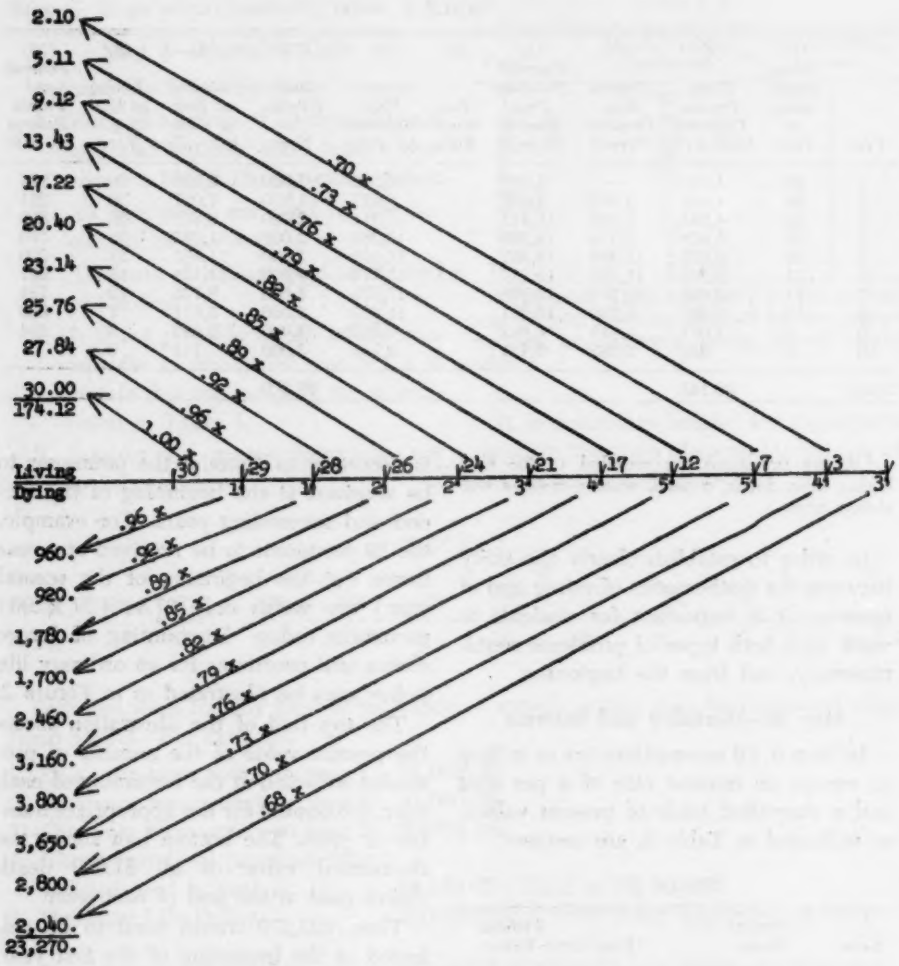


FIGURE 2

is \$183. [23,270 ÷ (30.00 + 27.84 + 25.76 + 23.14 + 20.40)].

The net level premium for a five year endowment is \$197 computed as follows:

Present Value First Year Death Claim	\$ 960.
Present Value Second Year Death Claim	920.
Present Value Third Year Death Claims	1,780.
Present Value Fourth Year Death Claims	1,700.
Present Value Fifth Year Death Claims	2,460.
Present Value Living Claims (\$21,000 × .82)	17,220.
Present Value Future Claims (5 Year Endowment)	\$25,040.

Present Value First Year Premiums	30.00
Present Value Second Year Premiums	27.84
Present Value Third Year Premiums	25.76
Present Value Fourth Year Premiums	23.14
Present Value Fifth Year Premiums	20.40
Present Value Future Premiums (5 Year Endowment)	127.14

$\$25{,}040 \div 127.14 = \$197.$

Net level premiums for annuities and other types of life insurance policies may be computed for practice. It is also useful to have students compute premiums beginning at year (2) or year (3) when 29 or 28 persons are living. Since Figure 2 is drawn for an ordinary life policy issued at year (1), it cannot be used for other types of policies or for policies issued in other years. Students should be encouraged to draw figures like Figure 2, for different policies and different ages of issue.

Comparing rates and reserves for an ordinary life policy beginning in year (3), when 28 persons are alive, with similar figures computed from year (1), when 30 people are alive, demonstrates, as words cannot, why premium rates must rise at older ages.

This system eliminates the necessity for computing net single premiums. It also eliminates the need for explaining the life annuity due concept.

The most important advantage, however, is in providing a simple model through which the essence of the theoretical basis of life insurance can be explained without the use of complicated mathematical formulas or computational problems.

TABLE 4

Year	(1) *Living Beginning of Year*	(2) *Total Prems. Collected* $134 \times (1)$	(3) *Reserve from Previous Period*	(4) *Current Premium Plus Reserve* (2) + (3)	(5) *Interest at 4%* .04 × (4)	(6) *Reserve Plus Interest* (4) + (5)	(7) *Death Claims for Year*	(8) *Reserve at End of Year* (6) − (7)	(9) *Living at End of Year*	(10) *Individual Policy Reserve* (8) ÷ (9)
1	30	4,020	—	4,020	161	4,181	1,000	3,181	29	110
2	29	3,886	3,181	7,067	283	7,350	1,000	6,350	28	227
3	28	3,752	6,350	10,102	404	10,506	2,000	8,506	26	327
4	26	3,484	8,506	11,990	480	12,470	2,000	10,470	24	436
5	24	3,216	10,470	13,686	547	14,233	3,000	11,233	21	535
6	21	2,814	11,233	14,047	562	14,609	4,000	10,609	17	630
7	17	2,278	10,609	12,887	515	13,402	5,000	8,402	12	700
8	12	1,608	8,402	10,010	400	10,410	5,000	5,410	7	773
9	7	938	5,410	6,348	254	6,602	4,000	2,602	3	867
10	3	402	2,602	3,004	120	3,124	3,000	124 Profit	0	—
Total		26,398	—	—	3,726	—	30,000	—	—	—

Table 4 is a computation of reserve for an ordinary life policy issued at the beginning of Year (1) to each of 30 persons at a net level premium of $134. After having computed one or more reserves in Step A, the student readily comprehends the logic of the interest factor in this table. The table leads the student to think in terms of retrospective reserve calculation but once the table is developed, it is easy to illustrate that the table could have been computed from the bot-

tom to the top and from right to left, thus resulting in prospective reserve calculation.

For example, the $2,602 reserve at the beginning of the tenth year is the retrospective reserve because it is the excess of premiums paid over claims paid as of that date. It is also the prospective reserve because it is the amount which it would be necessary to have (but for the $124 profit) to add to interest and premiums for the last year to pay all claims. Given the need for $2,602 at the end of the ninth year it is possible to work upward and from right to left on Table 4 as follows:

1. $2,602 needed at end of year to carry forward. (Column 8)
   +4,000 needed for death claims. (Column 7)

   $6,602 total needed at end of ninth year. (Column 6)
2. $6,602 ÷ 1.04 = $6,348 amount necessary at the beginning of the year.
3. $6,348 — 938 (Column 2) = $5,410 needed to be carried forward from previous year.

These three steps would be repeated on every line from bottom to top. The prospective reserve, which results, is the difference between the present values, at any age, of future claims and future premiums.

Step C—From CSA to CSO

After a number of (rate through reserve) problems have been solved, using the CSA table and an assumed present value table, it is easy to move to a consideration of actual mortality and present value tables. The most important effects of spreading the mortality over a one hundred year period, rather than a ten year period, arise from the "miracle" of compound interest over the long period of time. Present values of death benefits to be paid in the distant future become far less than have been indicated in the model. In the same way, premiums to be paid in later years become relatively less important.

For example, in the model at the extreme age, see Figure 2, assuming a 4 per cent interest factor, the claims are discounted only 32 per cent and the premiums 30 per cent. In an ordinary life policy (issued at age 30), using the CSO table and 3 per cent interest, the extreme claims and premiums respectively, are discounted by approximately 87 per cent. Thus, claims paid and premiums collected in the far distant future have little effect on rates or reserves in practice. Because the discount factor on premiums received in later years is so high, there is little difference in the present value of future premiums for ordinary life policies and for those which are paid up at age 85. This causes the difference in net level premiums and in reserves for these two policies to be so small that many companies issue only one of them.

A number of other current problems can be illustrated with the model. What is the effect if some of the persons who have been assumed to die in the third and fourth year, actually live to the eighth or ninth year? What would be the effect upon rates and reserves of an increase or a decrease in assumed interest rates? Use of a simple model makes it possible for students actually to solve such problems, rather than merely theorize concerning them. For example, the effects of improved mortality can be studied by changing the mortality table assumption as follows:

TABLE 5

Year	*Number Dying In Year (Table One)*	*Number Dying In Year (Improved Mortality)*
1	1	1
2	1	1
3	2	1
4	2	2
5	3	2
6	4	3
7	5	4
8	5	5
9	4	6
10	3	5

Comparing these figures with those developed in Figure 2, it is evident that when the mortality experience thus improves, net level premium is reduced from \$134 to \$122.[4] There are two reasons for this: (1) present value of future claims is reduced because insureds live for longer periods of time, and (2) more premiums will be collected by the company, thus

[4] $\frac{23,270}{174.12} = 134.$ $\frac{22,770}{187.23} = 122.$

TABLE 5 (*Continued*)

Year	*Present Value of Future Claims*	*Present Value of All Future Premiums*
1	\$1,000 × .96 = \$ 960	30 × \$1.00 = \$ 30.00
2	1,000 × .92 = 920	29 × .96 = 27.84
3	1,000 × .89 = 890	28 × .92 = 25.76
4	2,000 × .85 = 1,700	27 × .89 = 24.03
5	2,000 × .82 = 1,640	25 × .85 = 21.25
6	3,000 × .79 = 2,370	23 × .82 = 18.86
7	4,000 × .76 = 3,040	20 × .79 = 15.80
8	5,000 × .73 = 3,650	16 × .76 = 12.16
9	6,000 × .70 = 4,200	11 × .73 = 8.03
10	5,000 × .68 = 3,400	5 × .70 = 3.50
	\$22,770	\$187.23

raising the present value of the future premiums.

This is no more of a startling revelation than to say that when a corporation pays a debt, both assets and liabilities are reduced. But accounting is not taught in terms of such vague generalities, and there are some sound reasons why life insurance rating and reserves should be taught in a more definitive manner. Even though the object may be to teach generalities, it is a useful teaching device for students to work specific problems illustrating the generalities.

Because the subject is considered difficult or unimportant, most life insurance text writers place chapters dealing with rate and reserve computation in the middle or near the end of the book. If the theoretical basis of rates and reserves is mastered at the beginning of the first course in life insurance, other aspects of the subject become more meaningful. For example, if one of the 29 persons living at the end of the first year in Table 4, fails to pay his second year's premium should he be entitled to a refund of any part of the premium which he has paid? This question leads to a discussion of adverse selection and to the propriety of using Column (10) in Table 4, the full net level premium reserve, as the basis of the legal reserve and for cash value.

Placing greater emphasis on rating and reserve problems in the beginning life insurance course, either with or without the use of a model, is at least a step toward helping to prepare the student for his second or third job after college, rather than just his first job. All indications are that other areas of undergraduate business study will experience this shift of emphasis in the future.

If the student can gain a thorough

understanding of the theoretical basis of life insurance while in college, the "miracle" of life insurance will disappear and the "mystery" of how life insurance can pay if the insured lives or dies, will be solved. In place of these will come a logical understanding of the economic position of the life insurance industry as a specialized financial institution for reducing individual risk, not in a mysterious, incomprehensible manner, but in a logical, simple application of the law of large numbers.

In Summary

1. Most present explanations of life insurance rate and reserve computations make the problems seem unnecessarily complex by using a one hundred year mortality table with one million lives, and present value tables correct to six decimal places.

2. The theoretical basis of rate and reserve computation can be adequately explained with a simplified model by using assumed mortality and present value tables.

3. Use of a simplified model has the pedagogic advantages of (a) minimizing routine computational work, (b) being readily adaptable to term and permanent life insurance policies and to annuities, (c) providing students with problems which may be solved and checked by the students in reasonable time periods, and (d) emphasizing the unity in rate and reserve computational problems.

4. After the model has been mastered, the effects of varying mortality and interest assumptions can be studied easily.

5. Greater emphasis on rate and reserve computational problems may be desirable in college courses in life insurance, either with or without a simplifying model.

EXPLORATION OF A NEW AREA OF INSURANCE: DENTAL INSURANCE

LEE R. FARMER

Continental Casualty Company

Considerable interest has been aroused in recent years by plans which seek to make dental health care more readily available by making the cost of such care less of a burden. A number of programs have been developed during the past 30 years to provide dental care to local groups, the majority of them sponsored by industry, unions and cooperative groups. In 1958, some 92 dental plans were in operation, providing some type of dental service to approximately a half-million people. In the majority of these plans, the benefits have been limited to a few types of dental services.

The label "prepayment" has been applied erroneously to most of the plans, and even more erroneously, the term "insurance" has been used to describe many of them. Actually, very few involve the principle of prepayment and even fewer are based upon insurance principles. Most of these plans are group purchase plans. Typical is the arrangement in which an employer or a union pays from an earmarked fund, all or a part of the cost of providing dental care to a group of employees, and, in some instances, their dependents. This type of plan involves budgeting to meet estimated needs, but does not involve the principle of insurance.

A few plans, such as Group Health Association in Washington, D.C., Group Health Dental Insurance, Inc., of New York, and Dental Insurance Plan of New York, have operated in part or completely as dental insurance plans. Among commercial insurance carriers, only a few sporadic efforts have been made to provide dental insurance. A plan to provide true dental insurance on a nationwide basis is yet to be developed, but the interest in doing so is increasing.

Desire for Greater Economic Security

The interest in dental insurance is not an isolated phenomenon. This interest is part of a great ground-swell of public concern about financial security for the individual family, that has been developing in the United States during the past thirty years. Job security; unemployment benefits; retirement benefits; protection against loss from fire, theft, and accident; protection against the cost of sickness, loss of income resulting from sickness; for these and a myriad of other economic hazards, the public has sought protection. Increasingly the individual is becoming less willing to gamble on his ability to meet both current budgetable expenses and the emergency expenses that may strike at the family budget from many directions and without warning.

The average person now is ready to give up the excitement and independence associated with gambling with economic uncertainties, for the peace of mind which a greater degree of security provides. Some hardy souls, particularly those who

have a large measure of security themselves, deplore this trend as indicative of a growing national "softness," a loss of the frontier spirit. Perhaps those who hold this view are right, at least in part, but an examination of the present day economy suggests a less pessimistic explanation for this search for security. The growing complexity of the economy makes it far more difficult than it once was for the individual to meet the problems of survival with brawn, brain and perseverance alone. The average family is dependent upon a variety of services from many sources, that must be paid for in cash—not with potatoes or an exchange of personal services. The "frontier" with unlimited opportunities for all, is gone, if ever it really existed as it is now fondly described.

The greater need for economic security, engendered by the complexity of the economy, has inspired development of devices to provide a measure of economic security. The insurance industry provides one of the important mechanisms to accomplish this end. While the industry is very old, until recently it confined itself to a few types of major risks. In recent decades the industry has branched out to encompass a great variety of risks— major and minor—that threaten the economic welfare of the family. Each new area of protection that has been developed, has suggested the application of the insurance principle to still another area. It is a moot question whether the present generation is less courageous than its ancestors, or whether the means for providing security is simply more available. It may well be that the pioneer would have purchased insurance on his Conestoga wagon, against Indian attack, had such insurance been available.

Typical of the growing public demand for economic security is the desire for hospital and medical insurance. When the insurance industry lagged behind in the development of this kind of protection on a broad scale, public demand led to attempts to obtain it from government through legislation. While these efforts largely failed, efforts to obtain such protection through voluntary organized efforts met with phenomenal success.

The insurance industry, late in entering seriously into the business of providing health insurance, is only now coming into a strong competitive position with these voluntary efforts.

Is Dental Care Insurable?

Now that the more basic financial risks involved in meeting medical and hospital needs are covered reasonably well, the peripheral, but nonetheless important, financial risks involved in dental care are coming to the forefront. Dental insurance has been slower to develop, both because it represents less of a financial hazard than other medical problems and also because it represents a risk that is more difficult to insure. Some people in the industry insist it is not insurable. We believe it is insurable. We call attention to similar misgivings that existed not many years ago with respect to the insurability of medical care.

While we believe dental care is insurable, we hasten to add some qualifications to this flat statement. When the classical concepts of insurance principles are applied to the risks involved in the field of dental health, some difficult questions come to mind. The incidence of dental disease is very great—almost everyone suffers from it not once, but several times in the course of his life. For the average adult, past experience, to some extent, has established his degree of susceptibility. Both of these factors mitigate against the application of insurance principles to dental care.

Many students of health insurance have maintained that dental care is insurable only if the participants enter such a program with their mouths restored to dental

health and maintain a rigorous program of regular maintenance care thereafter. A closer look at this hypothesis, however, indicates that if people can be induced to follow so rigorous a regimen, the insurance risk involved in such a program becomes a small factor. The major cost would relate to routine diagnosis, an annual certainty, and for fillings to restore the damages caused by an annual increment in tooth decay. For susceptible individuals, this annual need for fillings is scarcely less of a certainty. Under such a program, a small area of insurable risk—the occasional development of more serious problems—does remain. However, the major cost of such a program and the major purpose it can serve, relates to a planned program of care rather than to insurance against heavy and unexpected financial loss.

Considered realistically, it is apparent that such a comprehensive program of dental care can be developed only among relatively small selected groups. The habits of the public with respect to meeting dental needs being what they are—all surveys of dental needs have revealed gross neglect—it is wishful thinking to base any large scale planning for dental insurance on the assumption the participants will receive regular and complete dental service. While there are indications that the national demand for dental care is increasing gradually, the disparity between need and demand is so great that generations doubtless will come and go before anything approaching complete dental care for the majority of the population, will be realized. We all are creatures of habit and habits change slowly, especially with reference to the time consuming and often unpleasant experience of visiting a dentist.

Strangely enough, this very neglect, we believe, offers a broader basis of insurability for dental care. The common practice is to neglect dental care until obvious defects appear or until pain sounds a warning. For the individual, this results in a sporadic and unpredictable accumulation of need that frequently calls for costly dental service. While unpredictable for the individual, the frequency and magnitude of such dental repairs for a large group, we believe, are predictable. Thus, dental insurance can be based actuarially, on the incidence of dental disease coupled with the unorthodox actuarial factor of the habits of people in seeking care for this disease. However, attention is called to the fact that basing insurability on the habits of people is not without precedent. Habit figures largely in determining the utilization as well as the need for medical care and is a major determinant, on the basis of experience, in actuarial computations establishing rates for medical insurance. Less obvious, but nonetheless real, the habits of people figure largely in determining the incidence of automobile accidents and, consequently, in determining insurance rates in that field.

The Dentists' Supply Company Plan

It is on the basis of these assumptions that we at Continental have taken a first step "into the unknown," in establishing a dental insurance plan. About two years ago we, in the General Group Division of Continental Casualty Company, were requested by the Dentists' Supply Company, whose principal plant is located in York, Pennsylvania, to establish a dental insurance plan for its employees. Our investigations revealed that actuarial data in this field is conspicuous for its absence. With helpful counsel from the American Dental Association, some experience data from some prepaid dental service plans, and considerable speculation on the part of our staff, we launched a dental insurance plan to provide insurance coverage for comprehensive dental care for Dentists' Supply Company employees. I emphasize the words "comprehensive care" for no

dental procedure is excluded from the plan. The company pays the insurance premium for all full time employees and their dependents. The employee pays a deductible amount for the first care received by himself and his dependents in each policy year. Above the deductible amount, the insurance plan pays 80 per cent of the cost of dental service up to a maximum benefit of $200 for each individual or $500 for each family. Consideration is being given currently to increasing these maximums sharply. We soon will have the results of our first year's operating experience. Preliminary indications are that the program is progressing most favorably.

Unanswered Questions

Out of our experiment at York, we hope to find at least partial answers to several of the questions that have plagued us and others in planning a dental insurance program. We want to know what the magnitude of demand and the cost of providing care to meet existing accumulations of need will be, when care is made available without cost or at a very low cost. We want to know how soon the initial rush for care, if it ever takes place, will subside. We want to know at what point demand will level off. We want to know whether the demand for regular care will increase in time, as people become more accustomed to using the benefits which the program provides.

We want to know the answers to all of these questions as they relate to various age groups, to males and females, to employees and spouses, and to as many other factors influencing the frequency and cost of dental care as can be obtained. To the extent we are able to obtain reliable answers to these questions from this experiment, we will be able to plan intelligently for the expansion of this insurance plan to other groups and to other areas. Valuable experience already has been gained, but the plan is much too new for any definitive conclusions to be drawn from it. We are waiting impatiently for the information we need; for it is our intention to develop this program as widely and as rapidly as experience and prudence will permit.

SUPERVISION OF INSURANCE IN AUSTRALIA

CECIL A. GRIMLEY

Insurance Commissioner for the State of Queensland, Australia

I am glad to have the opportunity to contribute some information in regard to the supervision of insurance in the Commonwealth of Australia. However, I feel that in order to give readers a clearer picture of the problem, I should preface my comments by furnishing some information regarding the Commonwealth, its industries and its problems.

Geography, Population, Industry

Australia, an island continent, has a total area of 2,971,081 square miles. It is almost equal in size to the United States of America, and is four-fifths the size of Canada. It is divided into six States, Victoria, New South Wales, Queensland, South Australia, West Australia and Tasmania, the latter being an island State with an area of 26,215 square miles. In addition, there is an area known as the Northern Territory.

The coastline of the mainland is 11,310 miles in extent, while Tasmania has a coastline of 900 miles. The State of Queensland has a coastline of 3,000 miles, and an area of 667,000 square miles. Fifty-four per cent of Queensland and thirty-nine per cent of Australia lie within the tropical zone. On the whole, Australia has a limited rainfall except in the tropical regions. However, a great deal of the plain lands of Queensland and New South Wales carry a water-bearing stratum, usually at great depth. Many artesian bores have been sunk and these give a considerable flow. They have made it possible to use large areas of land, particularly pastoral land, which otherwise would have been of doubtful value. Some of the inland towns have no other source of reticulated water supply.

The total population of Australia, at the last reckoning, was 10,227,389, Queensland's share being 1,450,314. Melbourne, capital of the State of Victoria, and Sydney, capital of New South Wales, have attracted about 39 per cent of the total population, whilst the inland country is suffering from a serious lack of population.

Australia, with less than one-sixth of the world's sheep, produces more than one quarter of the world's wool and about half of the total fine quality merino wool. The bulk of the production is exported, the value being in excess of £380,000,000 a year. The value of the principal agricultural crops exceeds £340,000,000, the biggest contributors being sugar, wheat and fruit. Dairy production is valued at about £250,000,000 a year. The mineral wealth of Australia is also extensive, its production exceeding £170,000,000 a year.

The Legislative System

The legislative control of the Commonwealth is vested in the Commonwealth Parliament, which consists of the Sovereign, the Senate and the House of Representatives. Throughout the Commonwealth, the Sovereign is represented by the Governor-General who, subject to the constitution of the Commonwealth, has such powers and functions as the

Sovereign is pleased to assign to him. Each of the six States has a State Governor, who is the direct representative of the Sovereign for the State and who exercises such powers as are conferred upon him by Letters Patent, which constitute his office. With the exception of Queensland, the State Legislatures consist of an upper and a lower house, known as the Legislative Assembly and the Legislative Council respectively. In Queensland, the Legislative Assembly constitutes the legislature. In the Commonwealth Parliament, the lower house is known as the House of Representatives and the upper house as the Senate.

The legislative powers of these Parliaments are limited by the Commonwealth and State constitutions. Briefly, the Commonwealth Parliament has power to make laws for the peace, order and good government of the Commonwealth in respect to trade and commerce with other countries and among the States, taxation, postal, telegraphic, telephonic, and other like services, the naval and military defence of the Commonwealth, currency, coinage and legal tender, banking and insurance (other than State banking and insurance), bankruptcy and insolvency. The State Parliaments are concerned with the domestic problems of the State such as land tenure, the administration of justice, prisons, labour, railways, health, hospitals, etc. When a state law is inconsistent with a law of the Commonwealth, the latter prevails.

As, with the sole exception of Tasmania, the island State, the boundaries between the various States are mainly artificial, many problems of inter-State trade arise and much litigation has resulted, a picture which I am sure will not be unfamiliar to many American readers.

Queensland's Regulation of Insurance

In 1901, the Queensland Government placed on its statute books "The Life Assurance Companies Act of 1901," an Act "to make provision for regulating and controlling Life Assurance." This legislation met the needs of the day and helped to place the life assurance business of Queensland on a fair and sound basis.

It was not until 1916 that the Queensland Government took action to regulate general and marine insurance business. In June of that year, the Government introduced legislation to repeal all existing legislation in regard to workers' compensation and replaced it by legislation which was then regarded as revolutionary. Not only were compensation benefits increased very substantially, but the cover granted was made much more generous and many undesirable features of the old legislation disappeared. The "waiting time" for injured workers was reduced from fourteen days to three days and a very short time later, "waiting time" was eliminated altogether. It was made compulsory for all employers of labour to insure their liability, a feature which a few years later became uniform throughout Australia.

A State Accident Insurance Office was established, under the control of an Insurance Commissioner and a "State Accident Insurance Fund" was created. The legislation further provided that all employers must insure with the State office and that the worker's right of recovery was to be against the Insurance Commissioner, not the employer, thus ensuring that, irrespective of whether the employer did insure, the injured worker would receive compensation. This legislation created a furore among insurers and was contested in the Supreme Court of Queensland and later, on appeal, before the Judicial Committee of the Privy Council. The decision of the Privy Council approved the decision of the Supreme Court that the legislation was valid.

In the meantime, the Queensland Government had gone ahead with the prepa-

ration of legislation "to authorise the carrying on by the State of Queensland of all classes of insurance business not already authorised by The Workers' Compensation Act of 1916 and to regulate the carrying on of insurance business in Queensland by the State and other insurers." This legislation, which became operative on 1st February 1917, was the first attempt in Australia to regulate the conduct of insurance, other than life assurance. It was divided into two parts, the first setting up the State Government Insurance Office, which absorbed the State Accident Insurance Office and took over all responsibility in regard to the administration of the Workers' Compensation laws, and the second providing for the control and supervision of marine and general insurance, including the licensing of insurers, brokers and agents, the payment of deposits by insurers, the fixation of premium rates and limitation of procuration costs.

To better understand the impact of this legislation on the insurance world of Australia, it should be explained that, as in the United Kingdom, insurance had been carried on by "Tariff" insurers, that is insurers who were members of the Fire, Accident and Marine Underwriters' Associations in the various States. The activities of these State Associations were under the supervision of the Council of Underwriters, a Federal body composed of representatives of the associations. These associations conducted a certain amount of research, arranged uniform policy conditions, fixed premium rates, commission and brokerage rates and in general exercised a fairly strict control of the business. At the inception of the new legislation, there were few, if any, insurers who were not members of the Tariff associations. Under the new law, insurers visualised many of the procedures which previously were their prerogative, being taken away from them and their hostility was loud and long. However, the legislators had foreseen the difficulties which lay ahead and in the legislation had made appropriate provision to overcome them.

In regard to the supervision of insurers, the legislation provided that:

(1) Every insurer carrying on marine and general insurance business in Queensland or intending to carry on such business, must obtain a license so to do from the State Treasurer.

(2) Every insurer must lodge with the State Treasurer a sum of money, assessed on net premium income, ranging from £5,000 to £10,000. There were provisions for these deposits to be increased as the premium income increased.

(3) Every insurance broker and agent must obtain a license from the State Treasurer, for which an annual fee was to be paid.

(4) Brokerage and commission were limited to 10%.

(5) Premium rates were to be fixed by the Insurance Commissioner in consultation with a Representative of Insurers, who was to be elected by licensed insurers.

(6) Insurers were required to furnish details of premiums and claims, etc. for the purpose of fixing premium rates, as and when required by the Insurance Commissioner.

(7) Insurers were required to lodge copies of policy and application forms before undertaking any particular class of insurance.

(8) Insurers were required to lodge annually profit and loss accounts relating to their business in Queensland.

The Representative of Insurers is elected by licensed insurers and acts for them in all negotiations with the Insurance Commissioner. In regard to the fixation of premium rates, the legislation provided that in the event of any disagreement between the Insurance Com-

missioner and the Representative of Insurers, the matter in difference should be referred to a competent actuary, to be appointed by the Governor in Council. The decision of the actuary was to be final. It was provided, further, that the premium rates, having been assessed, became the standard rates and must be charged by the State Government Insurance Office. The legislation did not make it obligatory for licensed insurers to charge these rates, but it became standard practice for them to be adopted as Tariff rates. As such, they were charged by all Tariff companies, whilst the non-Tariff companies usually charged from ten to fifteen per cent less, except in some classes of business, such as motor vehicle insurance, where all insurers are charging standard rates.

The limitation of brokerage and commission has proved an important factor in keeping down procuration costs and there have been very few breaches of the law in that regard. Where breaches have been detected, prosecution has followed.

The new legislation settled down quickly and in a very short time relations between licensed insurers and the Insurance Commissioner became quite cordial despite the keen competition of the State Government Insurance Office.

In 1923, the State Government amended the Life Assurance Companies Act of 1901. Among other important alterations, it was prescribed that all life assurance offices must obtain a licence from the State Treasurer and that no new company would be granted a licence to transact life assurance business within Queensland or to carry on such business in Queensland, unless the Company by its constitution provided that the net profits earned by the Company were exclusively divisible amongst the policyholders of the Company.

Federal Legislation

This remained the only legislation in Australia relating to insurance, until 1932 when the Federal Government placed on the statute books "The Insurance Act of 1932." This legislation, which was introduced in a period of depression, merely provided that all insurers must lodge with the Federal Treasury, deposits assessed on the premium income of the insurers. The legislation further provided that any deposits held by State Governments prior to the passing of the Act should be transferred to the Federal Treasury as and when required by the Federal Government. As a result of this legislation, the Queensland Government lost its right to demand deposits from insurers.

Life assurance in Australia has always been on a very high plane and the great mutual assurance societies have earned world wide recognition. However, during the late thirties a few young companies had sprung up and, in the absence of any legislative control, they soon got into financial difficulties. At last the Federal Government realised that the need for some legislative action was urgent, and in 1945 "The Life Insurance Act of 1945" became law. This legislation is very comprehensive and covers the full range of activity in the life assurance field. The legislation, which is administered by an Insurance Commissioner, provides for the registration of life assurance companies. Companies are required to place with the Federal Treasury, deposits as prescribed by the legislation. It also prescribes the conditions in relation to statutory funds and actuarial investigations and gives the Insurance Commissioner authority to take action to have unsatisfactory companies wound up or placed under judicial management for the benefit of policyholders. This legislation was very well received and undoubtedly it has been of great benefit to the community.

It is of interest to note that there are only twenty-eight life assurance companies in Australia. Four of these are

reinsurance companies which have no direct dealing with the public. In addition, there are the State Government Insurance Offices of New South Wales and Queensland, which have a substantial life assurance business. These Offices are not subject to the Federal law and carry on under the life assurance legislation of their own States.

With the introduction of the Federal life assurance legislation, the Queensland Government's interest in the supervision of life assurance terminated.

The State Insurance Office

In the meantime Queensland's State Government Insurance Office, now handling all classes of insurance business, has gone from strength to strength. At 30th June 1959, it had a premium income exceeding £10 million a year and its assets were in excess of £36 million. This phenomenal growth made it necessary to reorganise the management of the office, which since 1916 had carried out the onerous duties of management of the office and administration of "The Insurance Act" with an administrative staff which had not been strengthened numerically. It was recognised that the administrative staff should be increased and the Government considered that the time had come when the administration of The Insurance Act should be divorced completely from the management of the office.

Over the years there had been a very close liaison between the Insurance Commissioner, the State Office and licensed insurers and the relations had been very happy. However, there was a case for separation of the duties and the Government, early in 1960, introduced the legislation necessary to implement this proposal.

The Insurance Acts of 1916 to 1923 had always been suspect in that there was good reason to believe that in some respects they offended the Federal constitution, which lays it down that there shall be no restriction of inter State trade. The question of inter-State trade had received much publicity and several important cases had been determined by the High Court of Australia, whose decisions had been approved by the Privy Council. One of these decisions was in regard to banking business, which was held to be inter-State trade.

The question of insurance being inter State trade has never been raised seriously. It is perhaps a tribute to the way in which the legislation has been handled and the tolerance of licensed insurers, that the regulation has been accepted without question. The Government took the opportunity in later legislation to correct the anomalies in the earlier situation and to so alter the framework that it can no longer be held to offend the Commonwealth constitution. The main differences in the new legislation are—

(1) The Act prescribes the qualifications which applicants for insurers, brokers and agents' licenses are required to hold, including in the case of insurers, the minimum paid-up capital which is regarded as necessary.

(2) Whereas, under the old legislation the decision to refuse a licence was final and there was no right of appeal, under the new legislation there is right of appeal.

(3) The "standard" premium rates now become maximum premium rates. No insurer may charge more than these maximum rates but he may charge less.

(4) The Insurance Commissioner, whilst he had power under the old legislation to investigate any complaint that insurance business was being carried on without a licence, had no power of search. This has been remedied in the new legislation.

Conclusion and Recommendations

In concluding this brief survey of the supervision of insurance in Australia, I

would like to say that, in my opinion, the position is most unsatisfactory. Insurance plays too important a part in our financial and economic structure for it to be taken for granted. Whilst it is true that over a long period there have been extremely few failures, it is also true that within the past few years there have been some failures and some cases where failure has been forestalled by reconstruction. None of these failures occurred in Queensland. Indeed, some of the companies concerned had been refused a licence to carry on business in Queensland.

Had there been any reasonable degree of supervision these Companies may not have failed; certainly, their position would have been detected long before they became too involved and the public would have been given some measure of protection.

Fire, marine and general insurance business in Australia return a net premium income in excess of £155 million a year, whilst interest on insurers' investment produces another £6 million. This income has been earned by 340 insurers registered by the Commonwealth Government but it is perhaps significant that although Queensland writes the third largest fire, marine and general insurance business in Australia, only 140 insurers are licensed to carry on business in the State.

I am thoroughly convinced that the supervision of insurance as carried out in Queensland should be uniform throughout Australia. I believe that if the Commonwealth or the States had legislation similar to the Queensland Insurance Act, steps could be taken to extend the measure of supervision, particularly in regard to the presentation of financial statements. Under existing conditions, many insurers' financial statements hide much that should be revealed, a fact which has been the subject of unfavourable comment by recognised financial and insurance critics. Action could be taken to check the reserves for outstanding claims, unearned premiums, etc. and, even more important, some investigation of insurers' investments would be possible. These are, in my opinion, two of the most important features of insurance administration. A company which, on its balance sheet, may appear in a sound financial position may be in fact far from sound if its investments and reserves will not bear critical examination.

FACTORS INFLUENCING THE TRAINING OF LIFE INSURANCE SALESMEN

HOWARD H. CONLEY

New York Life Insurance Company

Sales Training in the New York Life Insurance Company is defined as "assisting the individual to acquire the knowledge and skills necessary to be a successful field underwriter." With this as an objective, the Company took three factors into account in developing a comprehensive and effective sales training program for field underwriters:

(1) The individual's qualifications for the job.

(2) The problem of compensation.

(3) Field management's responsibility for training.

The Individual's Qualifications for the Job

Though great strides are being made in expanding life insurance education at the university level, it is rare indeed when a life insurance company hires, as a salesman, a person who has had formal training in the field. Our experience indicates this is true, despite the fact that about 50 per cent of our new men are college graduates. Of the total hired, very few have sold life insurance before, and only 40 per cent have had previous selling experience of any kind. Of this 40 per cent, most have sold tangible products that require different techniques from those necessary for selling life insurance.

These problems then — the lack of formal education in the life insurance field and limited experience in selling an intangible — create a situation that must be recognized and compensated for in the training program.

Compensation Factors

Most types of selling do not demand immediate sales results from a new man. For example, the food salesman soliciting grocery stores, usually is placed in a territory where firms are already using his products. This business from present customers provides a source of revenue during the salesman's period of training that may offset the Company's training costs as well as the salesman's salary.

The ordinary life insurance field underwriter has no prescribed territory or "customers." He must be taught to find his customers and develop markets in which he can deal successfully, in addition to learning the technical aspects of life insurance and the skills of selling.

Compensation of new men is provided on the basis of selection safeguards and faith in "unproven" ability. The only offset for the salary that a new underwriter is paid, is income from new business. It is apparent that new men must make sales quickly in order to justify their compensation.

The life insurance training program, therefore, must be designed to get the new salesman into production quickly, primarily to offset salary payments. Of course, early production also provides important field training; skills can be acquired only through doing.

Field Management Responsibility for Training

The Field Training Division in the Home Office prepares training courses, programs and training aids. While recognizing the importance of establishing training standards for all offices, we feel very strongly that training efforts should be personalized to the greatest possible degree. Therefore, with few exceptions, training is administered locally by field management in each of the Company's 237 General Offices. This approach provides a standard pattern of training nationally, but at the same time allows the local manager to personalize the training for the individual field underwriter.

The New York Life Training Program

Consideration of these three factors led the New York Life Insurance Company to conclude that an effective training program must have:

(1) Accelerated initial training, designed to get the new field underwriter into production quickly.

(2) A salary plan of compensation to support the new field underwriter until he can become established.

(3) A program of training that covers all aspects of the field underwriter's work, including advanced underwriting and the C.L.U. designation.

(4) Flexibility, through local administration, to adapt the training program to the underwriter's specific needs.

On the basis of these requirements, the Company's training program is divided into five major parts: Induction training, basic training, and intermediate training; advanced underwriting, and professional education.

Induction Training

The objective of this first phase is to prepare the new man to pass state licensing examinations where required, and to equip him to make sales on his own. Induction training covers five basic areas:

(1) Knowledge of life insurance—rates, underwriting, papers, etc.

(2) Organized sales presentation.

(3) Market development.

(4) Work organization.

(5) Attitude and appreciation of the service of life insurance.

Initially, the training encompasses only enough of the technical aspects of selling to enable the new man to go before the public. Obviously, this is necessary before attempting to broaden the trainee into a salesman qualified to serve all market segments competently. Just as obvious is the fact that unless the salesman can master the techniques and methods necessary to produce sales, there will be no opportunity for him to develop any further.

Basic Training

After the brief Induction Training, the underwriter begins a series of 45 assignments that are completed during his first year. The subject matter covers a substantial broadening of the areas treated lightly in Induction Training.

Each lesson is divided into four parts:

(1) Text material—for facts about the business and the various coverages.

(2) Case histories—written by successful field underwriters to provide methods and techniques.

(3) Field projects—for experience in applying knowledge in sales situations.

(4) Skull practice exercises—for training in the use of rates and other mechanics of the business.

When the new field underwriter has been in the business approximately nine months, has completed his training assignments and met a minimum production

requirement, he is invited to attend a Regional Career Conference. At this three-day conference he receives a concentrated review of the fundamentals of life insurance, sales and operational aspects.

Intermediate Training

In his second year, the field underwriter completes a course in program selling that we call "Planned Security." Following this, he enters an "Introduction to Advanced Underwriting" course that gives him some insight into the business insurance, estate and taxation fields. Combined with these two courses during his second year, is an intensive work-organization program under the close supervision of his General Manager. This program teaches him to be a well organized business man as he enters his third year, in which he becomes a completely independent contractor.

Advanced Underwriting

At the end of two years, the field underwriter has completed all the required courses. At the discretion of local field management, he may take further courses when he has demonstrated the abilities and the market potential for Advanced Underwriting types of sales. The three advanced courses are Business Insurance, Estate Conservation and Pension and Profit Sharing. For these courses, all assignments are graded in the Home Office instead of in the local office, as is the case with the required program during the first two years. A staff of Advanced Underwriting consultants supervises the grading of the assignments to insure full understanding of the contents.

Twice a year in each of the Company's ten regions, Advanced Underwriting Seminars are conducted by consultants from the Home Office. These Seminars, to which selected underwriters beyond their second year are invited, are of three types:

(1) Advanced Underwriting Seminar—covering the basic principles of Business Insurance and Estate Conservation.

(2) Business Insurance Workshop—devoted to analyzing needs and problems in selected cases.

(3) Estate Conservation Workshop—also based on analyzing needs in selected cases.

Professional Education

The Company has an organized program to encourage and assist Agents with more than two years in the business to study for and take the C.L.U. examinations. In addition to furnishing financial assistance in refunding enrollment fees and furnishing C.L.U. certificates, the Company also provides a correspondence course of organized study for candidates who do not live in cites where formal courses are held at cooperating colleges or universities. Financial assistance is also offered students who wish to pursue the LUTC program.

Sales Training Aids

A vital part of the training program is helping men to develop skill in applying their knowledge, improving their selling techniques, developing their markets and organizing their work. To help provide field management with the means of training in these areas, the Company uses a number of training aids:

(1) Tape recorders—used in the drill and rehearsal of sales presentations.

(2) Case recordings—dramatized sales situations that agents must analyze, applying their knowledge and sales principles.

(3) Film strips analyzing the sales process.

(4) Talk-back sound-slide presentations of sales situations in which the salesman answers objections voiced by the prospect on the screen.

These audio-visual training aids provide field management with the tools to help

the field underwriter acquire both the knowledge and skills necessary to succeed.

This recitation of mechanics and background naturally raises the question of whether the Company feels the training program is accomplishing its objectives. We do, for these reasons:

(1) We are attracting good men. The assurance of the knowledge and skills needed for success and the guarantee of consistent income during the training period have proved important factors in drawing men to careers with the New York Life. Both the quantity and quality of business written have been improved steadily with the development of the training program.

(2) Our policy of conducting training through local management personnel has proved practical, and provides a flexibility that enables the Agent to grow and develop by capitalizing on his own individual strengths. Thus, a team of field underwriters and field management is being developed to take advantage of every opportunity for growth in the future.

A FORUM ON
THE PLACE OF INSURANCE IN THE COLLEGIATE CURRICULUM

ERWIN A. GAUMNITZ, Dean

School of Commerce
University of Wisconsin

Let us assume that the objective of collegiate education for business is to provide a foundation that will enable one to learn rapidly in the business field. This means that an education, as differentiated from training, should supply a method of approach that will enable one to analyze and penetrate problems rather than to specialize on the acquisition of routine techniques. If this assumption is reasonable, it would appear that a base should be laid in a broad and varied educational experience before the specializing process takes place.

Many of the member schools of the American Association of Collegiate Schools of Business require a varied and rich foundation in general education, which occupies approximately two years of the customary four-year undergraduate curriculum. The more common approach includes an introduction to principles of economics and accounting, along with English, mathematics, and natural sciences, in this introductory period. Following such a foundation, a core area in business is studied. The specifications included in the Standards for Membership in the Association, list such courses as accounting, statistics, business law, finance, marketing, and management—but not insurance. As a matter of actual practice, some schools urge a course in basic insurance to be included in the program for each student, while other schools have one or more insurance courses in their curriculum, but none is required or urged. Still other schools, usually the smaller ones, do not offer a course in insurance, or if they offer an introductory course, do not have work beyond the basic level.

Based on these preliminary considerations, the problem is the proper and desirable place that insurance should occupy in the undergraduate curriculum. Most people would undoubtedly admit that risk is a very prominent feature of the free enterprise system, and consequently that success in managing the problem of risk is the basic determinant of success or failure in the American economy. Risk management thus occupies a crucial position, causally, in the profit and loss position of any business enterprise.

Collegiate education for business could be analyzed into the functional parts such as, accounting, marketing, finance, employee relations, and the like. Or, one could study the special business features of the manufacturing industries and similarly for the wholesale, retail, and service trades. Insurance could be thought of as an industry in which the functions enumerated above are woven into the total structure.

Another approach is to look upon insurance itself as a function which is common to all industrial and trade groups. Con-

siderable thought aimed at these two possible approaches, does not leave one with a conclusive answer as to which is superior and indeed it may be argued that good instruction could be conducted following either pattern, after a good foundation is provided.

It is my belief that a basic treatment of the problems of risk, followed by various methods of treating the phenomena, could be best solved by considering insurance as a broad function. This analysis could then be followed by looking at insurance as an industry in which the students could get a picture of the effect of weaving together the factors necessary for successful operation. An advantage of this procedure is that the disciplines of economic analysis, statistics, accounting, marketing, finance, public and employee relations, many divisions of law, and others common to the total business spectrum, may be brought to bear in this field.

If we revert to the idea that an education should sharpen one's mental faculties instead of merely filling the mind with facts devoid of causal connections, the field of insurance offers an excellent opportunity to study the interrelations of many forces in our economy. There is perhaps no field in business that draws on as many talents and interests as does the field of insurance. One who is broadly educated in insurance must have had an exposure in both technical and non-technical areas, including an opportunity to view the past in an endeavor to forecast the future.

A remaining problem concerns the extent to which the details of the insurance industry should form the content of many, rather than a few courses in insurance. A reasonable study of the peculiarities of some of the segments of the insurance industry should serve to indicate to the student how these interrelations work out in practice. Learning by contrast is fruitful. Beyond this point, an educator may seriously question whether additional details should form the content of university courses, or be left to various segments of the industry to be developed on the job. This is not to imply that college and university research should not be concerned with these problems, but only that a standard college course could perhaps more logically deal with problems more normally faced in typical business situations, in which basic principles and ideas are likely to emerge.

The preceding comments are aimed almost exclusively at an undergraduate curriculum. One would expect that post graduate work at either the M.B.A. or Ph.D. level would be much more detailed in nature. This would be especially so in the case of research supporting a thesis.

GEORGE E. MANNERS, *Dean*

Georgia State College

The proper role of the field of insurance in the curriculum of a collegiate school of business is a matter of fundamental importance to the schools and to the insurance industry. A number of assumptions upon which any discussion of this subject must be based, were presented in the article by Dean Arthur M. Weimer in the Summer, 1959, issue of *The Journal of Insurance*.[1] That article is wholeheartedly endorsed by the present writer as a foundation statement on education for business.

Present-day business civilization and

[1] Arthur M. Weimer, "Suggestions Regarding Education for Business," pp. 7-11.

society require men and women with a myriad of varying abilities, skills, and talents. Business needs for qualified personnel vary among industries, within each industry, and indeed, vary among the states and regions of this country.

In this milieu, it would be unwise and unwarranted to attempt to standardize completely the approach of schools of business to any field or subject matter. Rather than standardization, what is needed is a firm determination by each school of its particular objectives and the designing of curricula most pertinent to the accomplishment of these objectives.

Unfortunately, not all schools have clearly defined objectives, nor do all schools relate effectively their curricula to their objectives. Many, however, do both. This is one source of the variety of approaches to the field of insurance. There are sound schools of business which offer no instructional courses in insurance, relegating to suggested readings, such role as insurance may have. There are other equally sound schools of business which give very considerable emphasis to insurance. In these latter schools the insurance programs are based upon general concepts, and these concepts are examined in the context of a particular industry.

Both of the approaches just given, may be equally valid. There is room enough for both in college curricula. Business and government have need for the graduates of both. The only essential element is that a collegiate program, whatever its nature, generates a sound understanding of fundamental values and provides intellectual tools for the continuing professional development of every graduate.

The decisive factors in determining the role of insurance in a particular curriculum are that the course, courses, or program foster the stated objectives of the institution; that they be properly organized and presented at a conceptual and analytical level; that they have meaningful intellectual content; and that the students' mental horizons be expanded as a result of the challenges of their studies. These factors can be present in particular institutions and, when they are, the proper study of insurance can have desirable results.

Equally as true, however, is the fact that no institution should attempt to offer degree programs which do not fit its objectives and for which it does not have a fully qualified faculty. Accrediting bodies and the concerned industry should become apprehensive when an institution purports to undertake programs with no prospect of real success. Programs at a mediocre level, in any field at any institution, are potentially harmful to the academic stature of any subject field, especially to fields which are relatively new to degree curricula.

Neither individual nor aggregate benefit can come from degree programs which are poorly conceived and poorly presented by inadequately prepared instructors. This is true whether the field be management, accounting, economics, insurance, literature, physics, history, or medicine.

Because of the location of Georgia State College in Atlanta—the financial, distribution, transportation, manufacturing, communications, governmental center of the Southeast—the approach of the institution is necessarily regional in concept. The much-discussed Gordon-Howell study[2] concludes that this is a desirable goal for some institutions. Within the objectives of a truly regional-urban institution, quality degree programs at all levels and at all hours, for youngsters and adults, are desirable. Too, the relegation of vocational and highly specialized subjects to branches or extension divisions as non-credit courses, should be accom-

[2] Gordon and Howell, *Higher Education for Business* (Columbia University Press, 1953).

plished. Despite the fact that urban institutions have often not balanced carefully their aims, and often have permitted too much specialization in too many courses, to creep into their programs, the equally stark fact is that urban institutions are strategically placed for higher education and represent a great hope for higher education. Urban-regional institutions offer today, and in the future, the best focus for both breadth and specialization. Reaching for the general through the particular and approaching generalization through specialization, are sound pedagogical principles. What urban institutions, generally, have not done is to separate their degree functions from their service functions.

Within the environment of Atlanta, the School of Business Administration—a large school whose enrollment includes youngsters and adults—has sharpened its objectives. In its central institution, youngsters and adults, for both day and evening classes, are screened equally for admission as degree-seeking students and are programmed in academic progression. Highly specialized courses have been or are being eliminated, and breadth—combined with a strong arts foundation and with analytical tools—is accented. All students meet a full-time faculty almost exclusively. Yet, the concentration of general concepts within an industry is an accepted academic objective and is within the objectives of the institution as an urban-regional school of business and administration. The insurance program is addressed to the element of risk in economic society and its maximum alleviation. The insurance faculty[3] is composed of highly professional, excellent and productive scholars—individuals who cherish a holistic approach to the problems and challenges of education for business.

In the setting assumed—an urban-regional institution—a fresh approach can also be made to the concept and organization of graduate programs. Where an institution can afford specialization within an industry (at a high conceptual level), at the undergraduate level, generalization can then be expanded at the graduate level. Especially is this true if adults are also involved in the graduate program. Values, principles, objectives, philosophies, policies all take on real meaning where adults, experienced and rising in their businesses, are students. Under these circumstances, a final split can be achieved from the undergraduate classes, and a pure graduate approach can be made.

Finally, a general adherence of all institutions to the principles of generalization will in time dilute the balance and capabilities of the faculties of the future. Not only will faculties be limited in understandings but in research as well.[4] One of the mainsprings of intellectual progress in business and the universities lies in the capabilities of attacking problems from many points of view. The generalist can best function in teamwork with specialists who are also generalists.

The consequences of overgeneralization in the universities affecting graduate programs and research are often overlooked.

In summary, there is a real need for industry specialists within our system of higher education for business. Specialists are needed in the transportation, insurance, real estate, finance and other areas. These specialists are needed by the armed forces, by the industries, by universities,

[3] The faculty of the Department of Insurance combines three former Huebner Fellows of the University of Pennsylvania and two respected actuarial professors; all have the doctorate. The Department is headed by Dr. Kenneth Black, Jr.

[4] The effects of eliminating highly competent specialists from the academic scene should be separately evaluated in terms of consequences to research. Industrial aggregations need the impartial viewpoints of highly skilled, independent critics and consultants, who can relate many disciplines to the problems of particular industries.

and as consultants. It is the considered opinion of the writer that standardization of business schools would indeed be unfortunate; that there is room for institutions, especially urban-regional ones, to specialize; that specialization should be restricted in quantity (to a small percentage of the total undergraduate curriculum); that such specialization should be erected atop a broad structure; that specialization should be eschewed unless it is conceived in breadth, related to general propositions, and offered by a highly competent, professionally oriented faculty; that the responsibility of the schools of business to maintain the development of staff specialists for government and business should not be abandoned; and that the research function should not be neglected in evaluating the consequences of total generalization.

JAMES R. SURFACE, *Dean*

School of Business
The University of Kansas

My view of "The Place of Insurance in the Collegiate Curriculum" is somewhat more "bearish" than those which appeared in the September issue of this Journal. I do not relish the role of "devil's advocate" in this forum and trust that my comments will not antagonize my friends in the insurance industry or in the profession of insurance education. My father was a life insurance general agent for almost 40 years, so I incurred a debt to the industry at birth, and my respect and admiration for the profession has grown steadily ever since.

Nevertheless, I submit that in the next 10 or 20 years our undergraduate colleges will be forced to curtail their course offerings in insurance, and furthermore, I submit that such a development may not be as disastrous as it might at first appear.

My first prediction is based on one certainty and one probability. The certainty is the sweeping increase of college enrollments in the next ten years and the fact that faculty additions cannot be expected to increase proportionately. In my opinion, as the ratio of students to faculty increases, colleges will tend to prune curricula, and I would expect the more specialized field courses, such as insurance, to be cut.

The probability that I foresee is that future college students, especially those preparing for a business career, will be required to take more mathematics, behavioral science, and possibly foreign language training, than do today's students. If this proves to be true, it will also work a squeeze on course offerings in fields like insurance, and as I have indicated, I think that the combination of these pressures will mean a reduction in undergraduate study of insurance.

Assuming that this prediction might come true, I offer the argument that such a development would not seriously harm the insurance industry. At the risk of over-simplification, I submit that collegiate insurance courses today furnish training for two groups: (a) future insurance "producers," and (b) future insurance "consumers." By the former, I mean those students who will enter the industry as salesmen, financial analysts, accountants, etc., and by the latter, all of those who, in their business and private lives, will purchase various kind of insurance.

I would argue that our colleges can prepare "producers" for the insurance industry without specific courses in insurance, just as they have trained successful

executives for the petroleum industry, the steel industry, the automobile industry, etc., without providing course work in those particular industries. My point is that a college graduate with a good background in the basic business tools and a general background in the functions of business, can enter any industry if he is prepared to educate himself concerning the lore of that industry.

Finally, although it might be desirable to train insurance consumers in our colleges, I would argue that it is not a necessity. It seems to me that one of the most wonderful developments in the field of insurance over the last 30 or so years is the progress that it has made toward professionalizing the selling of insurance. This very development makes it much less important for our consumers themselves to have expert knowledge about the field. As long as the client can depend on the professional advice of his insurance counsellor, he can devote his time and study to other fields.

MAURICE W. LEE, *Dean*

School of Business Administration
University of North Carolina

It would be ill-mannered in the extreme for a guest author to advise the American Association of University Teachers of Insurance that the subject matter of its discipline had no place in the curriculum of a university or college. And this author espouses no such position. Clearly, insurance does have a place in the curriculum. It is presumably the purpose of this series of statements to explore differences in concept as to just what that place is.

Since space limitations make extended discussion impossible, it may help the reader identify the points on which he would like to take issue, if the premises upon which the remainder of these remarks rest, are specifically identified at the outset. They include:

a) It is not the function of a university, and within the university, of a collegiate school of business, to take on the training of practitioners for a particular business or industry.

b) It is the function of particular industries and their members to provide the special training essential to the work of that industry.

c) There is room for university-industry cooperative endeavors with respect to this area of specialized industry training.

Within the range of these premises, it seems to me completely appropriate that university credit be given for a general course along the somewhat classic lines of "Risk and Risk Bearing." Such a course would include both a theoretical approach and some measure of the institutional and noninstitutional arrangements which have evolved in our society for handling risks. In addition, it seems to me appropriate, on academic grounds, that basic courses be given in the general principles of insurance, as one of the basic arrangements by which risks are handled. And serious thought should be given to making these management, rather than consumer, oriented. Thus, such a course could be centered on pension plans, employee group benefit plans, workmen's compensation insurance, business interruption insurance, liability protection for businesses and other forms of risk coverage important in the decision-making processes of management.

I think also that there is ample academic justification for a basic course in life, property, and casualty insurance. Beyond this, I would not go. And I do think that such courses should not have an industry or consumer orientation or be burdened with detail of a nonpermanent nature. Instead they should take a professional approach, with emphasis upon principles and theory as related to these two areas. The courses should be pitched at a sufficiently rigorous level so as to help substantially in preparing the student for the insurance parts of the C.L.U. or C.P.C.U. examinations.

Whether this much work in insurance should actually be given would also depend upon decisions based upon a sort of marginal analysis of the value of the institution's scarce dollar resources. The fact that there is adequate academic justification for offering credit courses in life insurance, property insurance, etc., does not mean that they should be offered. For most universities, funds are sufficiently scarce as to require a continual examination of the marginal utility of one proposed expenditure in contrast with others. For example, I would not recommend that a particular school go beyond the basic course in risk and risk bearing, if its financial resources do not already permit it to man adequately the standard basic core work in accounting, finance, marketing, statistics, management and economics.

In summary, then, the place of insurance and the amount of insurance included in the university curriculum is bounded by two sets of limitations, (1) the amount of such work which can be justified on academic grounds, and (2) the amount of such work which can be justified on the basis of "best use" of scarce university funds. The first of these is the larger, in my opinion, and would justify up to three or four courses, but not more than that. I doubt, however adequate the university budget, that much more than three or four courses can be justified on academic grounds. Beyond that range, the density of courses would begin to thin down rather quickly. Beyond that range, the university would be taking on vocational training of the sort better reserved for and better done by the industry.

In my opinion, the insurance industry has shown a commendable sense of the proper allocation of educational functions as between the industry and the universities. Its C.L.U. and C.P.C.U. programs represent a refreshing willingness on the part of the industry to assume its proper share of the educational experience of members of that industry. The universities have cooperated in these programs by making staff available to handle portions of the C.L.U. and C.P.C.U. programs.

PAUL GARNER, *Dean* and C. A. SPENCER, *Instructor*

School of Commerce, University of Alabama

For many years, the various aspects of insurance were taught in a fragmentary fashion in the arts and science or professional schools of universities and colleges. With the general acceptance and application of insurance and its attainment of the stature of an American financial institution, there arose a need and a demand for courses in insurance. The varied emphases that are given insurance at different colleges and universities, indicate that the precise place of insurance in the collegiate curriculum has not yet been determined to the point of general acceptance.

It is the general consensus that, in the

last few decades, insurance has earned for itself a place as an integral part of the American collegiate curriculum by virtue of the fact that insurance has become one of the important financial institutions of the United States. As such, it has become important not only to the American economy as a whole, but also to the individual family. The pooling and investment function of insurance, in addition to the protective function thereof, has engendered in recent years a much greater degree of economic, social, and governmental stability than was ever possible before insurance reached its present position. A financial institution of such far-reaching economic and social ramifications, merits the attention and study of the student of higher education.

Courses in insurance may serve a number of worthwhile objectives. First, colleges and universities strive to meet the fundamental educational needs of society. The widespread acceptance and use of insurance as a matter of personal choice, noted above in conjunction with the legal obligations imposed on businessmen and citizens, creates a real need for insurance education. Therefore, a core requirement course in the principles of insurance seems to be warranted. Such a core requirement would provide the general knowledge and understanding of insurance which every person in our present-day society should possess. In addition, it would simplify and facilitate instruction in other areas of scholastic work because of the fact that the student will have frequent encounters with different phases of insurance therein. In the past, it has been assumed that the student would already possess a basic knowledge of insurance as a result of fragmentary instruction. Unfortunately, this method has frequently proved to result in a confused and disorganized understanding of insurance.

Second, our future business and political leaders should have a working knowledge of our important financial institutions. The core requirement course in the principles of insurance would fulfill this objective.

Finally, the function of higher education in providing advanced training for those preparing for a professional insurance career, should not be overlooked. Since colleges and universities have felt a growing demand in recent years for the specialized training of advisers qualified to give the public competent counsel with regard to complex insurance coverages geared to the needs of the individual family or business, some specialized courses covering the more prominent fields of insurance should be more widely offered.

In résumé, a two-fold program is herein submitted for earnest consideration. First, a one-semester course in the principles of insurance should be required for commerce students. This would tend to facilitate and simplify instruction in other areas and to provide the general knowledge and understanding of insurance which the individual student will find so important in our present-day society.

Second, the offering, at intervals, of a few highly specialized courses in the more prominent fields of insurance would provide the training necessary for those embarking on a career in the insurance business, either with an insurance firm, or in the establishment of their own agencies.

PUBLICATIONS AND RESEARCH

INSURANCE EDUCATION ABROAD

A Review Article on *Insurance Courses in Colleges and Universities Outside the United States,* by Davis W. Gregg and Mechthild K. Longo. Philadelphia: American College of Life Underwriters, 1960. 73 pages.

INGOLF H. E. OTTO

New York University

The difference between talent and genius has been said to consist in the work of talent doing better what others have done well, while the work of genius does what has never been done before. On that basis, this is a work of genius. A comprehensive survey of world insurance courses and professors has long been needed and has never before been produced. From time to time, urbane and elegant articles have been published on insurance education in specific parts of the world. Not until now has a single compilation been made of the names and addresses of insurance teachers all over the world and of the insurance course offerings of colleges and universities abroad, showing at a glance the courses given, number of students, length of the course, and the number of hours a week it is given. The accomplishment is monumental.

In addition, the authors deserve special commendation for their courage in avoiding a monoglot book. All too often research of this kind, however well done, is tainted with hubris in being published solely in English. The present work has the bulk of its text available in six languages: English, French, Spanish, German, Italian, and Portuguese. The tables of courses and lists of teachers are set forth only in English: in them, multiple headings would be supererogatory.

The work opens with a statement of purpose and summary by Davis Gregg. The principal sections then outline the research procedure used, list the colleges and universities included in the survey, summarize by country, the state of collegiate insurance education outside the United States, set forth in a series of impressive gatefolds the exact course offerings in such institutions, and finally present a directory of insurance teachers, grouped both by institution and by country.

The necessity of a survey of this kind may be seen in the swift growth of collegiate insurance education in the twentieth century. Growing from three universities offering insurance law courses in 1877, some five hundred United States colleges and universities now give insurance courses. This number far exceeds the rest of the world put together: the present survey shows two hundred and ninety-nine colleges and universities outside the United States, giving insurance instruction. Six hundred and eighty-nine teachers are engaged in giving some four hundred and fifty-six courses in a total of twenty thousand eight hundred and seventy-five class hours of instruction. The principles course is, as in the United States, the most popular offering. Next to it, in descending order, are "Insurance Law", "Social Insurance", "Fundamentals of Life Insur-

ance", "Fire Insurance", and "Marine Insurance". Bits and pieces of insurance instruction are also, to a great extent, imbedded in courses labelled "Commercial Law", "Economics", "Investments", and the like.

The data presented are interesting enough in themselves; but, even more important, they open doors of communication which had to be broken down before. Now a visitor with a serious interest in insurance education, who may be passing through Quito or Copenhagen or Paris, will know precisely on whom to call, instead of wondering fuzzily if one of the local institutions boasts an insurance specialist. Now the researcher with a project on comparative failure rates or comparative spout cover wordings, will be able to send his forms to the right man straightaway instead of spending months trying to find out just who that man is. The product of this new tool will be limited only by the intelligence and effort of those who use it.

Some idea of the difficulty which has attended international insurance research up to now, may be gathered from the procedure which the authors had to use in making their survey. They began with the four hundred and twenty colleges and universities shown as giving courses in economics and business in the American Council on Education's volume on *Universities of the World Outside the U.S.A.* The head of each of these was asked if his institution gave insurance courses and who his insurance teachers were. The returns suggested that the figure of four hundred and twenty institutions was far too low. In Canada, for example, less than half of the universities with schools of commerce had appeared in the American Council's listings.

Secondary sources were then abandoned in favor of primary ones: an excellent procedure in any case. Information was requested directly from embassies in Washington: eighteen were visited personally—the major countries—and another fifty-four were sent letters. This procedure yielded the names of two hundred and ten universities more. They were sent the same letter as the original list, making a total of six hundred and thirty universities surveyed. Sixty-two per cent replied, three hundred and ninety institutions: two hundred and ninety-nine to the effect that they did teach insurance; ninety-one, that they did not. Each insurance teacher mentioned was then sent a detailed questionnaire in one of the six survey languages. The information contained in the returned questionnaires is displayed in the impressive gatefolds already mentioned.

So much for the positive content and merit of this excellent piece of research. Now it becomes necessary to perform the less grateful duty of a critic: to notice weaknesses and suggest improvements. Occasionally that duty is a delight: what more honorable occupation could there be than denouncing some hypocrite who is violating academic freedom or some dinosaur who has never heard of it? But, in the present case, anything other than the most diffident and helpful suggestions would be churlish. Does it become a starving man to sneer at his rescuer's cooking? The only appropriate reaction in that case or in this, is gratitude. Even if the report had consisted only in photocopies of the returned questionnaires, without collation and without translation, its readers could still have felt only that one proper emotion. With that much of a dementie, the critic's work in ordinary must be performed, on the basis that no human work is perfect, that the present work is so important that it will run to many editions, and that the next edition will be made more nearly perfect by specific constructive suggestions.

By a happy circumstance, the review copy came to hand in the most appropriate of places: London, still the insur-

ance center of the world, thanks to the curious self-abnegation of American insurance executives. This review was, as a result, composed partly in Christ's Pieces at Cambridge, partly on the non-marine balcony at Lloyd's, and partly in the casino at Deauville. More appropriate places for thinking about world insurance education cannot be imagined. The long thoughts possible there led to the following specific comments and suggestions, set baldly down in a bare catalogue.

1. *General Concepts.* The first sentence of text says that "insurance as a science is almost as old as modern civilization". With all deference to the enthusiasm which occasioned this statement, it would seem more accurate to say that "life insurance as a science is approximately a century old; property and casualty insurance has, unfortunately, not yet become a science". A few lines further on it is stated that "the expected development of insurance—private and public—throughout the world in the years ahead, suggests further advancement of collegiate insurance educational facilities." There is no necessary connection between the two; and, as members of the American Association of University Teachers of Insurance well know, the tide now flowing in collegiate insurance education is ebb, not flood. It is, therefore, just as likely that the years ahead will see a decline in collegiate insurance educational facilities.

2. *Structure of the Work.* In form, this work may be described as a prime example of American research. In the United States that is praise; in Oxbridge it is not. The difference between the kind of work done in each does not lie in the gathering, evaluation, collation, and dissemination of data, but in their interpretation and presentation. In the ancient universities, a candidate for the doctorate submits his dissertation after the usual amount of bone-crushing labor. If his work meets all the standards of scholarship and is graceful, urbane, and well written, the candidate receives the D.Phil. or the Ph.D. If all the requirements except gracefulness, urbanity, and style are met, the candidate is awarded a second bachelor's degree. When this happens, as it sometimes does, to an American, he is stupefied. The natives, however, regard the system as admirable. From their point of view, the present work could be said to consist of nine appendices in search of a text.

To be sure, it would have been impossible to digest the material and produce a text in the short time that has elapsed since the return of the basic questionnaires; so what this animadversion amounts to is suggesting that the next three or four years be devoted by the authors or their deputies to digesting the excellent data they have gathered and to compiling a few hundred pages of interpretation and commentary for the second edition. The trail has already been blazed by several addresses and papers: those of G. Bonaldi and Dr. M. Grossman at the tenth anniversary of the Ecole Nationale d'Assurances in Paris in June of 1957; those of the representatives of fifteen countries who attended the conference on professional training for insurance, in Switzerland in September of 1956; and the exhaustive account of world insurance education presented by W. A. Copeman to the Chartered Insurance Institute, in July of 1957. All that material runs to several hundred pages: its interpretations and evaluation should be tested by the data derived from the questionnaires; the whole digested; and the conclusions verified by further research and personal visits to some of the countries concerned. Then, in a reasonable number of years, a proper interpretive and critical text can be inserted in the work just before the tables.

3. *Taxonomy.* In any research which takes the whole world as its ambit, the taxonomic decisions are maddening. Lines

of demarcation that are perfectly clear in India, are vague blurs in Canada; differences which everyone respects in Cleveland, are just vulgar jokes in Vienna. In the present case, the basic taxonomy is entirely straightforward and simple: it leads, however, to the inevitable paradoxes and irrationalities. On the one side of the line are insurance courses given by colleges and universities: these are included. On the other side are the courses given by anybody else: institutes, companies, proprietary schools, and the like. Although the criteria are nowhere made explicit in the work, they presumably are that a college or a university is such if the government of its own country considers it such. Nothing could be more clear-cut. In application, nothing could lead to more confusion.

A declaration of that kind is, of course, meaningless unless illustrated; and it is best illustrated by limiting cases, not median cases. Obviously, no sensibilities are outraged at the thought of including, for Austria, the Technical High School but excluding the Society for Insurance Science. That is fair enough. But it does not make any kind of sense to set forth the insurance offerings of Beirut College for Women while ignoring those of the College of Insurance of the Chartered Insurance Institute at Penton. The first has a single course, given at a level of competence which can readily be visualized; the other offers what is probably the most sophisticated and meticulous insurance education in the world today. But the logic is impeccable: the first is within the pale since it is accredited by the Lebanon; the second is consigned to the outer darkness, since the United Kingdom uses vastly different rules.

A similar doom of non-recognition is visited upon the Insurance School of Norway, the elaborate school system of the Association of Swedish Insurance Companies, the Insurance Academy at Cologne, the Netherlands' Institute for Training Insurance Staffs, and similar institutions. It must be emphasized that recognition of the fact that these institutions have been left out, is not an argument for taking them in. What is suggested is a slightly different taxonomy; so that the very worst of the institutions included in the survey would be better than the very best of the institutions excluded from it. Admittedly, such a division would be much harder to apply than the present mechanical one, but it would lead to a more useful and significant survey. Among other anomalies, the method adopted in the survey leads to a list of insurance teachers abroad, in which the names of Leganger, Cockerell, and Dinsdale do not figure at all. And that result is just not right.

4. *Research Procedure.* With the concept of the procedure used, no fault can be found; as to its execution, certain improvements can be suggested. The list of colleges and universities to which questionnaires were sent is exhaustive. The list of institutions which returned completed questionnaires is much less complete. To a certain extent, it is the fate of questionnaires to be disregarded; but, in the present case, an asymmetrical pattern of non-response can be seen by language groupings. The most prominent of these are Communist China and the Union of Socialist Soviet Republics. Now an excellent case could be made for leaving these countries out of the survey entirely; but, if they are to be included, it would seem obvious that two of the six survey languages would have to be Chinese and Russian. As recently as twenty years ago, an American university might have found those languages difficult to manage; nowadays they are, if not exactly commonplace, at least not really formidable. And, in a survey that sets out to include all the hundreds of millions of people behind the Iron Curtain, it is not sensible to use

minor languages like Italian and Portuguese, while ignoring major ones like Russian and Chinese. Given the increasing self-consciousness and *amour propre* of those countries, a letter to them in English is as little likely to be answered as one to the University of Pennsylvania in Chinese. For the next phase of the survey, it would be well to include Russian and Chinese, either as additional languages or in place of Italian and Portuguese.

With respect to the procedure used in the six survey languages actually employed, certain questions are puzzling. Since Portuguese was one of the survey languages, why was the contact letter to Brazil written in English? Since French was a survey language, why was the contact letter to France in English? Other cases are less obvious, but still worrisome: Honduras was written to in English rather than Spanish; the Lebanon in English rather than French; Syria in English rather than French; and Poland in English rather than their historical second language, French. None of these points are major, but they are intriguing.

The questionnaires which were sent out, asked the recipients to furnish a copy of their institution's most recent catalogue, with the insurance courses specially marked. From the masses of material which were probably returned, it should be possible to extract useful additional data for the second edition. Such items might include, *inter alia*, mention of the chair of insurance mathematics and statistics at Stockholm University; the ingenious examination system used in Copenhagen for the H.D. designation; the chairs of actuarial science at the University of Amsterdam; and the actuarial program of the Faculty of Political, Economic, and Commercial Science at the University of Madrid.

5. *Geography.* A scholarly work which is global in scope, ought to be particularly strong on geography. The present edition contains a few errors which need to be put right. An argument of sorts can be put up for synecdoches like "Russia" for the Union of Socialist Soviet Republics — Fowler would probably have classified that usage as a "sturdy indefensible" — but no one from the beginning of time to the present moment, has suggested that the United Kingdom can be called "England." Mr. H. A. L. Cockerell of the Chartered Insurance Institute leafed through the review copy in vain, for several minutes, trying to find the entry for the United Kingdom, and was quite taken aback to be shown all of it — Scotland, Northern Ireland, the lot—subsumed under "England." In the real meat of the report, the data displayed on the gatefolds, this malapropism becomes especially unfortunate, since the only entry under "England" is a Scottish university.

In other parts of the work, places which no longer exist should be enucleated and relabelled for the second edition: *e.g.*, the "Anglo-Egyptian Sudan" and "British West Africa." Also, a designation adopted in one form in one part of the work, ought to be used throughout without change to avoid confusing the reader: *e.g.*, "W. Bathurst" on page fourteen becomes "Bathurst" on page twenty-four; many universities appear in their own tongue in one place and in English translation in another; the "Université de Montreal (Ecole des Hautes Etudes Commerciales de Montreal)" retains only the title within the parenthesis in its second appearance in the text; a similar ecthlipsis occurs to the universities of Bordeaux and Montpellier; while the Parisian "Centre de Perfectionnement aux Affairs de la Chambre de Commerce" on page twenty-five does not appear at all on the list of French institutions written to on page fifteen. Nothing particularly useful would be accomplished by spinning out the whole list of these differences: the only point that

needs to be made is the desirability of fixing on a single style of name for each institution, and then using that style consistently throughout the work.

6. *Polyglottism.* The use of several languages in the text is praiseworthy and appropriate. The survey would be much less effective if its results appeared only in English. To such laudable endeavors, however, certain dangers inure. A work which presents itself to the world as a kind of Gesamtkunstwerk cannot complain if it is judged as one. So scrutiny must be given not only to the English portions of the work, but to the French, Spanish, German, Italian and Portuguese as well.

In appraising the polyglot sections, an anomoly presents itself: the six versions of the "Purpose and Summary" are intended to be parallel, but they are not, quite. In fact the divergences may be used for hazarding a speculation which may not have the panache of Theobald's emendation but does have the superior virtue of being verifiable: *viz.*, that the French and Italian versions were the work of one man; the Spanish and Portuguese of a second; and that the German translation was done by a third. For the second edition, a redaction ought to be made which would enforce parallelism among the translations. A few examples might be of interest: the title of "Purpose and Summary" remains such in all translations except the German, where it becomes, simply, "Vorwort"; knowledge of the procedures used in the survey is "very valuable" in English, Spanish, German, and Portuguese, but only "valuable" in French and Italian; the survey is described as "pioneering" in English, French, and Portuguese, and "preparatory" in Spanish, but is not supplied with adjectives at all in German and Italian. Other occasional faults are seen in the copies of contact letters and survey forms, some of which seem to be merely typographical errors that have been overlooked. These minor differences and faults are just niggling details, to be sure; but they might as well be corrected for the next edition.

That ends the formal list of all the little improvements that can be suggested. The unique accomplishment of this survey is quite untouched by any such minor details that need to be adjusted. Many of them will, no doubt, be quietly buried under the inscription, *"De Nugibus non Curat."*

This survey is the most ambitious and the most significant piece of international insurance research ever undertaken by any of the national insurance organizations. It can and should lead to major results in the development of insurance education, in the exchange of information among insurance teachers, and in allowing persons all over the world with a serious interest in insurance education, to become acquainted with one another. The authors and the American College of Life Underwriters have earned the gratitude of everyone who is really interested in furthering the progress of insurance.

BOOK REVIEWS

THE TEACHER WHO CHANGED AN INDUSTRY. By Mildred F. Stone, C.L.U. Richard D. Irwin, Inc., Homewood, Illinois, 393 pages.

Reviewer: Edison L. Bowers, Professor and Chairman of the Department of Economics, The Ohio State University.

This is the life story of an unselfish and unswerving Wisconsin farm boy who, by prodigious efforts over a span of more

than fifty years, justly earned the title of "father of insurance education"; it is the story of the beloved professor who won the admiration and respect of more than seventy-five thousand students and carried the inspiring message of insurance directly to more than a million listeners in all parts of the world and to countless others through his written works; it is the story of the teacher who changed an industry; it is the Huebner story, "the man with his personal interests and characteristics, as well as the educator and public servant."

Although this reviewer was never privileged to be one of Dr. Huebner's classroom students, it has been his rare, good fortune to have been associated with him in insurance education activities for a period of more than thirty years. It is his considered judgment that the author, Miss Mildred F. Stone, C.L.U., has not only caught the Huebner spirit but has succeeded admirably in assembling and correctly evaluating the major facets of his personality and achievements. The biography she has so skillfully put together is a faithful portrayal of one of the outstanding characters of the twentieth century.

The narrative and descriptive qualities of this volume alone give it high ranking as interesting reading. The chapter, "Badger State Boy," is remarkably vivid in its portrayal of the farm environment in which Dr. Huebner spent his boyhood days in Wisconsin. The chapter, "Student Days," depicting his undergraduate experiences at the University of Wisconsin, will revive pleasant memories for any university graduate. The chapter, "The Wharton School," has special interest for any university teacher, particularly one with a major interest in insurance. The following chapter, "Dr. Huebner at Home," is an intensely human account of a happy and devoted family. These four related chapters go far to set the stage for an account of "Sunny Sol's" long and notable professional career.

In following Dr. and Mrs. Huebner in their world-wide travels, the most recent one being a 40,000 mile international friendship trip to the Far East, at the invitation of the State Department, Miss Stone further emphasizes the human interest qualities of her narrative. She gives a clear picture of the very high esteem in which the Huebners are held in far-away lands, as well as at home.

Few persons during their lifetime, have received so many significant and well-deserved honors as those which have been bestowed upon Dr. Huebner. This reviewer is reluctant to single out even a few examples from the very long list appearing on pages 353-355 of the biography, because he knows that "the beloved professor" cherishes each one of them in relation to a memorable experience.

One needs to read this volume carefully to appreciate the breadth of Dr. Huebner's interests. While most persons today associate his career with various facets of insurance education, history will record his significant contributions to a better understanding of the stock and commodity exchanges, maritime affairs and various other economic institutions. Notable also were his many services to the United States Government, including his duties as Expert to the Congressional Committee on the Merchant Marine, which investigation led to the creation of the United States Shipping Board; his special services to this Board which culminated in the Model Marine Insurance Law; his special services to the Civil Aeronautics Board during World War II and his membership on the War Department's Advisory Committee on Insurance.

But, to turn to the principal theme of the biography, just what was it that Dr. Huebner did to change the insurance industry and how did he do it? If one may over-simplify in the interest of brevity, the biography correctly stresses some major issues and goals, the resolving and

attaining of which became Dr. Huebner's life-time work. When he completed his graduate study program at the University of Pennsylvania, it suddenly dawned upon him that Wharton School was not offering courses in the stock and produce markets and in insurance. Believing that schools should teach what "persons would find it increasingly useful to know," he successfully argued for the inclusion of these subjects in the curricula. In 1904, he began to teach at Wharton School the first organized courses in the world on the stock exchange and insurance from the economic point of view. From then on it was a question of determining what should be taught and how it should be taught; it was an educational issue.

While Dr. Huebner always has been interested in all branches of insurance, and has promoted them impartially, life insurance early became the spear-head of his program. Greatly concerned about some of the findings of the Armstrong investigation, he saw the urgent need to make the expanding life insurance industry responsive to its public trust. Many insurance salesmen had not been trained to recognize the needs of insurance buyers. Instead of a standardized commodity which could be sold by anyone who could read a price tag, Dr. Huebner viewed life insurance as a professional service to be fitted expertly to family and business needs. Like Benjamin Franklin, he deplored the fact that men would insure their houses, their merchandise, their ships and other valuable property and yet neglect to insure their lives, their most valuable possession. In his efforts to combat this and other fallacious practices, he developed some basic principles, the most important of which was the human life value concept which he continually stressed with a crusader's zeal.

But even though Dr. Huebner and others knew what needed to be done, there was still the question of how to do it. Rather than attempt to bring about the needed reform through legislation or other compulsory measures, he chose the only approach which has stood the test of time—education on a voluntary basis. The right persons needed to be taught the right things by competent teachers.

Teaching, as he visualized it, was by no means limited to instruction at Wharton School. It included students everywhere and adults, both within and without the insurance industry; it included research, writing and lecturing. Huebner's idea of insurance education was not a "quickie" course but a liberal, comprehensive program of study extending over virtually a lifetime; one might say it was a "way of life."

Step by step Dr. Huebner launched his integrated program of insurance education. First, he established the Insurance Department at the University of Pennsylvania in 1913, the first of its kind at any university. In various ways he encouraged insurance instruction in other institutions of higher learning. In 1925, the National Association of Life Underwriters further recognized Dr. Huebner's efforts by approving the creation of The American College of Life Underwriters, with a view to establishing professional standards of education in life underwriting.

In 1940, the life insurance business united to create The Huebner Foundation for Insurance Education. Dr. Huebner stated this was the greatest award the industry ever gave him. This Foundation, as many readers of this Journal can testify, has been a very potent force in training additional insurance teachers, in promoting research and in stimulating publication.

With his goal for life insurance education well advanced, Dr. Huebner turned his attention to the property and liability segments of the industry. This time he was given substantial support by the American Association of University Teachers of In-

surance, which he had played a major part in organizing and which he had served for two years as its first president. In 1942, spokesmen for the property and liability insurance industry accepted the A.A.U.T.I. recommendations and The American Institute for Property and Liability Underwriters came into being. The C.P.C.U. now joined the C.L.U. as the designations of professional competence in insurance underwriting. The holders of these designations were qualified not only on technical grounds, but also in respect to their knowledge of the social sciences and other liberal subjects; in effect, they had received broad training in citizenship.

This massive insurance program, only the principal parts of which have been mentioned here, was made possible only by the services of many dedicated academic and industry persons. Dr. Huebner has always been most gracious in acknowledging the contributions of his many collaborators. Probably those who have been closest to him, at least in the actual administration of the programs, have been Messrs. McCahan, Loman, Gregg, McGill, Kulp and Kahler.

Dr. Huebner never sold a dollar's worth of insurance in his life but he has "presold" millions and some of the persons he has trained hold executive positions in insurance companies which deal in billions. Many of his former students have been among the country's leading producers, both in volume and in the quality of the services rendered. The "man in the rocking chair" exerted his far-reaching influence through education; he gave a dignified and convincing demonstration of the unlimited power of effective teaching. His record of accomplishment should be an inspiration to teachers everywhere, for all time to come.

WOULD YOU BELIEVE IT? By W. A. Dinsdale. Stone & Cox, Ltd., London, 1958. viii plus 59 pages.

Reviewer: Ingolf H. E. Otto, Associate Professor of Finance, New York University.

This slight volume (in both senses of the word) is notable because its species is so rare. The only other book of insurance humor that comes to mind, is Stix and Stix's collection of insurance cartoons, *Slightly Underwritten*, published nine years ago. For a teacher of insurance, however, this book has a virtue the other lacked: it can be quarried indefinitely for the light touches which make a technical lecture more easily absorbed and longer remembered.

Dr. Dinsdale's compilation of insurance humor had its origin in the lecture he gives to local institutes in the United Kingdom: "Insurance Education in a Lighter Vein." He reports that his audiences sometimes could not credit that every story he told was true. As Director of Education for the Chartered Insurance Institute, he was exposed to such an endless parade of *gaffes*, malapropisms, and attempted wit that the use of his imagination would have been supererogatory.

In any case, this book succeeds in being quite funny, though Dr. Dinsdale's own brand of humor inclines to the ponderous. The flavor of the collection can be sampled by a few of the students' definitions of insurance terms:

> Common law is the law that goes back to time immoral.
>
> Personal gifts to an individual by the Almighty are irreplaceable and cannot be indemnified.
>
> A tort is an objectionable wrong.
>
> Insurance is a great swindle only wrapped up legally.
>
> I.O.U. are the letters that a business man can put after his name when he's been bankrupt.
>
> The broker being an expert in insurance jargon would be able to protect his client from the puzzling and sometimes frightening phrases used by insurance men to circumvent a tricky question.

Other chapters are given over to "The Story of the Year" and to quotations or anecdotes involving each of the major branches of the business. As is not too well known in the United States, Dr. Dinsdale is the world's most prolific author of insurance books. This little volume will add nothing to his reputation but much to his popularity.

PRICE DISCRIMINATION IN PROPERTY AND LIABILITY INSURANCE. By C. Arthur Williams, Jr. The University of Minnesota Press, Minneapolis, 1959, 100 pages.

Reviewer: Calvin H. Brainard, Associate Professor of Insurance, University of Rhode Island.

To conform with state law, insurance rates must be (1) adequate, (2) not excessive and (3) not unfairly discriminatory. Most will agree that, for solvency and fair treatment, these are valid criteria of an acceptable rate structure. However, in the absence of statutory definition, considerable difference of opinion may arise as to their precise meaning and attainment. This is particularly true of the third criterion, the subject of Professor Williams' inquiry.

The author is particularly well-equipped to deal with the intricacies of his subject because of his previous research on insurance rating. The groundwork for this paper was laid in an earlier article "Some Economic and Legal Aspects of Insurance Rate Discrimination,"[1] of which the monograph reviewed herein may be considered both a development and recapitulation. Although reference is made to no fewer than 27 leading articles in *PCAS*, this work, like its predecessor, deals primarily with the economic and legal aspects of the subject and is largely divorced from the actuarial viewpoint. It is refreshing to find emphasis on the economic rather than the actuarial aspects of insurance pricing and Professor Williams is urged to pursue this trend further.

In comparing insurance with other public-interest industries (railroads and electric utilities), the author illustrates how insurance price structures may be explained in terms of conventional economic analysis. This is entirely relevant to his topic because, as he points out: (1) the detection of price discrimination must be based on either marginal or average costs, and (2) the relatively low fixed costs of the insurance industry indicate that very little latitude can be permitted insurers to depart from cost-based pricing in order to expand output or meet competition, even when such objectives are admissible. This sort of analysis also serves as a bridge between economic and insurance theory and should be of interest to those who have recently expressed concern in this *Journal* for the direction undergraduate insurance education should be taking.[2]

With unfair price discrimination defined as a condition in which the insurance premium structure is not proportional to the expected average full costs of protection, the author proceeds to evaluate each of the three general rating methods (individual, class and modification), for equity in the allocation of both loss and administrative costs. This is a major portion of the treatise (about 30 per cent) and contributes significantly both to the theory and understanding of rate making. With the equity aspects of modification rating, for many years a highly controversial topic, Professor Williams is on familiar ground. It is a commentary on the complexity of this subject, that in one

[1] *The Journal of Insurance*, XXIV, No. 2 (November 1957).

[2] And not only undergraduate education; it has always seemed strange that the CLU student approaches pricing in general in terms of economic theory and insurance rates in actuarial terms, without being able in any degree to reconcile the two approaches.

place he finds that "Retrospective rating does not distribute costs on the basis of the expected costs of protection" and hence, according to definition, is not equitable.

The bulk of the work and probably its chief purpose is a comprehensive analysis of state statutes and insurance department philosophies toward rate discrimination. Under a fellowship granted by the Ford Foundation, the author surveyed by personal interview and mail questionnaire, official attitudes at both insurance department and rate bureau levels. He also conducted an intensive investigation of secondary source materials and, of course, the statutes themselves. The results of this research are presented in two sections. The first deals with the history of rate regulatory legislation from its beginnings in 1886, through the model laws and down to the present-day statutes. The second part analyzes the problems and methods of administration, with special attention given to premium discount plans, uniform accounting, important court decisions and recent criticisms of current rate regulation. This is an impressive piece of scholarship and, as critical writing, ranks on the same high plane with Kulp's classic treatment of the subject in *Casualty Insurance* (Chapter 19).

Nevertheless, even Professor Williams' expert handling of this nebulous topic leaves the reader with a certain restiveness. One likes conclusions to be clear-cut and unfortunately for those who write about it, the subject of unfair discrimination is so closely linked with pricing in concert and with the issue of competitive pricing, that conclusions are necessarily blurred. The author points out, for example, that with pricing in concert "the neatness and to some extent the logic of the definition (of unfair price discrimination) disappear." He also observes that in the past, extreme competition has resulted in unfair discrimination while from other writers the contrary argument is advanced that the prohibition of unfair discrimination is frequently used to obstruct reasonable competition, with the result that both state regulation and the American tradition of free enterprise are jeopardized. Between extremes of uniform and competitive pricing, Professor Williams favors the former if a choice has to be made, but even this focus blurs for lack of an acceptable definition of an equitable dividend structure.

There seems to be a dearth of concrete examples throughout large portions of the work. This is probably unavoidable because, if rates are adequately regulated as required by law, there is no unfair discrimination in actual practice and the analysis must be largely confined to a critique of rate theory. One wonders, however, if examples of filings criticized or rejected because of inequities, might not have been obtained from insurance department records and presented anonymously, to illustrate administrative philosophy in action.

Finally, after a lengthy trial of an issue, one awaits a synthesis of the pros and cons, an expectation which the nature of this subject makes difficult to fulfill. On the one hand, we learn that "the record of the insurance industry (for equity in pricing) is superior to that of other industries," that "insurance consumers seldom complain about unfair discrimination" and that the "administration of the statutes has been for the most part conscientious and competent." On the other hand, we are told that "insurance premium structures are not as free of inequities as some insurance writings would lead one to believe," that "Court cases dealing with unfair discrimination are numerous" and that "It is folly to expect careful consideration of rate filings in many states because of limited manpower." While strict objectivity requires the facts to fall where they may, in juxtaposition these state-

ments lend an air of inconclusiveness to the inquiry.

However, all this is of the nature of the subject and not a reflection on its treatment, which is a model of scholarly achievement.

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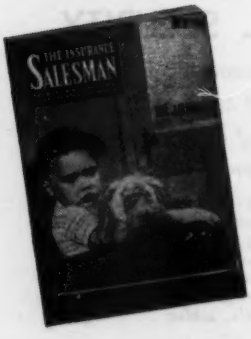

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